RDPAC

BIPI

完善《中国上市药品目录集》研究

Study of Improvement on the Approved Drug Catalog of China

目录 DIRECTORY

前言：研究背景
PREFACE: STUDY BACKGROUND

1. 前期研究成果综述

北京务实知识产权发展中心（以下简称“务实中心”）于 2015 年 10 月启动“药品专利链接制度”研究相关工作，并先后于 2016 年 12 月 25 日完成了《建立药品上市申报与专利保护衔接机制研究报告》（以下简称“一期报告”），于 2018 年 4 月 10 日完成了《探索建立中国药品专利链接制度研究报告》（以下简称“二期报告”）。

一期报告中，主要介绍过其他国家和地区应对药品注册过程中专利问题的相关制度。考虑到研究的目的是论证在中国建立药品上市申报与专利保护衔接机制（即

1. Summary of Previous Study Findings

Beijing Intellectual Property Institute (BIPI for short) started the study on "pharmaceutical patent linkage system" in October 2015, and successively completed the Study Report on Establishing the Linkage Mechanism between New Drug Application and Patent Protection (hereinafter referred to as "Phase I Report") on December 25, 2016, and the Study Report on Exploring the Establishment of China's Pharmaceutical Patent Linkage System (hereinafter referred to as "Phase II Report") on April 10, 2018.

The Phase I Report mainly introduces the counterpart systems of other countries and regions to deal with patent problems in the process of drug registration. Considering that the purpose of the study is to demon-

药品专利链接制度）的必要性与可行性，报告的第一部分重点介绍了以美国为代表的药品专利链接制度，对1984年Hatch-Waxman法案中与药品专利链接相关的制度的出台背景、制度规则、实施情况及实施效果做了较为详细、深入的研究。同时，对于以欧盟、日本为代表的侧重于创新药产业保护的数据保护制度，以及报告中称之为“第三种路径”的印度的相关情况，也进行了研究和评述。并对三种模式的效果进行了比较研究。报告的第二部分主要介绍了中国国内医药产业的现状，并重点关注了目前国内医药产业所存在的问题。报告的第三部分的梳理与药品管理和知识产权保护相关的法律制度规则基础上，尝试厘清现行医药政策中存在问题。同时，报告中指出，中国引入药品专利链接制度具有必要性，并且也具有可行性。在医药制度改革之际，在药品法和专利法修法之际，引入药品专利链接制度，将有利于推动我国医药产业的发展。报告最后提出了相关的立法建

strate the necessity and feasibility of establishing a linkage mechanism (i.e. pharmaceutical patent linkage system) between new drug application and patent protection in China, the first part of the report focuses on the pharmaceutical patent linkage system represented by the United States, and delves into the background for the promulgation of provisions related to pharmaceutical patent linkage in the Hatch-Waxman Act of 1984, the provisions themselves and their implementation. In addition, the report also investigates and reviews the data protection system, typically in Europe and Japan, which favors the protection of innovative drug industry, as well as the model adopted by India, i.e. "the Third Path", as the report puts it. The results of the three models are compared in the report. The second part of the report mainly introduces the current situation of the domestic pharmaceutical industry in China, and focuses on the problems existing therein. The third part of the report makes an attempt to clarify the problems in the current pharmaceutical policies after summarizing the legal systems related to drug administration and intellectual property protection. At the same time, the report points out that it is both necessary and feasible for China to introduce the pharmaceutical patent linkage system. At the critical time for the

议，并对引入药品专利链接制度之后的实施效果作出预期。

二期报告是在一期报告基础上，在中共中央办公厅、国务院办公厅发布了《关于深化审评审批制度改革鼓励药品医疗器械创新的意见》，明确要在中国探索建立药品专利链接制度的背景下完成的。如果说一期报告还侧重于论证是否应当引进药品专利链接制度，二期报告完成时，引进药品专利链接制度的必要性已经毋庸置疑，故研究的侧重点放在如何在中国构建药品专利链接制度，换言之，如何实现肇始于美国的药品专利链接制度在中国的本土化。二期报告首先探讨了药品专利链接制度的核心价值和制度基础，即市场确定性是药品专利链接制度的核心价值所在，严格依法保护药品创新是药品专利链接制度有效实施的前提和

pharmaceutical system reform, and amendment of Pharmaceutical Administration Law and Patent Law, the introduction of pharmaceutical patent linkage system will be conducive to the development of China's pharmaceutical industry. At the end of the report, some legislative suggestions are put forward, and predictions are made on the implementation of pharmaceutical patent linkage system.

The Phase II Report is worked out based on the Phase I Report and against the background of the Opinions on Deepening the Reform of the Review and Approval System to Encourage Innovation in Drugs and Medical Devices promulgated by the General Office of the CPC Central Committee and the General Office of the State Council, to confirm China's will to establish a pharmaceutical patent linkage system. It can be said that the Phase I Report still focuses on demonstrating whether the pharmaceutical patent linkage system should be adopted. However, by the time the Phase II Report is completed, all doubts about the necessity of adopting such a system have been cleared up, so the study focuses on how to build the system in China, in other words, how to realize the localization of the pharmaceutical patent linkage system which originated in the United States. The Phase II Report first discusses the core value and institutional basis of the pharmaceutical patent linkage system, and reveals that market certainty is the core value, and strict legal protection of

基础。由于药品专利链接制度涉及专利管理部门、药品监管部门以及法院等相关机构，报告的第二部分参照美国 USPTO、FDA 及法院在药品专利链接制度实施后的职责情况，对中国实施药品专利链接制度后各部门的职责变化情况作出预期。报告随后结合药品专利链接制度实施的各个环节，探讨如何在中国制度环境下实施药品专利链接制度，包括：建立中国的“桔皮书”制度，建立“拟制侵权”制度，明确专利挑战的程序规则，明确专利挑战案件的管辖，以及专利挑战案件中可能涉及的其他实体及程序问题，如专利挑战案件的法律责任，专利挑战案件中相关技术的认定与查明，专利无效结果的通知，涉及多个仿制药申请人的案件的处理，以及其他案件结果的认可等。

2. 本课题的研究背景

药品专利链接制度肇始于美国，其中，《经治疗等同性评价批准的药物》（又称“桔皮书”）收录了美国

drug innovation is the premise and basis for the effective implementation of such a system. As the pharmaceutical patent linkage system involves the patent administration department, drug regulatory agency, courts and other relevant authorities, the second part of the report anticipates the changes in the responsibilities of different authorities after the implementation of the system in China by reference to the responsibilities of USPTO, FDA and courts in the United States after the implementation of the pharmaceutical patent linkage system. The report then discusses all aspects of implementation of the system in the context of China's institutional environment, including: establishing China's "Orange Book" system, building a "artificial act of infringement" system, clarifying the procedural rules and jurisdiction of patent challenges, as well as other entity or procedure issues that may be involved in patent challenge cases, such as legal liabilities in patent challenge cases, identification and ascertainment of related technologies in such cases, notification of patent invalidity, handling of cases involving multiple generic drug applicants, and recognition of other outcomes of the cases, etc.

2. Study Background of this Project

食品药品监管局（以下简称“FDA”）根据《联邦食品、药品、化妆品法案》（以下简称“FD&A法案”）基于安全性与有效性原则已批准的药物，但没有收录仅仅基于安全性评价的上市药品。其中最重要的是列明创新药企向FDA进行新药申请时提交的覆盖该新药的药品或使用方法的专利信息。FDA通过“桔皮书”公布指定的参比制剂（RLD）和标准制剂（RS）。专利挑战的标的和程序以“桔皮书”公布的信息为准。因此，“桔皮书”中记载的专利信息是仿制药企业进行专利挑战的基础。

The pharmaceutical patent linkage system originated in the United States. The Approved Drug Products with Therapeutic Equivalence Evaluations (commonly known as the "Orange Book") identifies drug products approved on the basis of safety and effectiveness by the Food and Drug Administration (FDA) under the Federal Food, Drug, and Cosmetic Act (the FDCA). However, the Orange Book does not include the drugs on the market approved only on the basis of safety. Most importantly, the Orange Book lists the patent information (patent claiming a new drug or a method of using the drug) that innovative pharmaceutical enterprises should submit to FDA for the new drug application. Through the "Orange Book", FDA designates Reference Listed Drug (RLD) and Reference Standard (RS). The subject matter and procedure of patent challenges shall be consistent with the information published in the "Orange Book". Therefore, the patent information recorded in the "Orange Book" is the basis of patent challenge for generic drug makers.

2017年10月8日，中共中央办公厅、国务院办公厅印发了《关于深化审评审批制度改革鼓励药品医疗器械创新的意见》（以下简称《意见》），指出，中国药品医疗器械产业快速发展，创新创业方兴未艾，

On October 8, 2017, the General Offices of the CPC Central Committee and the State Council (hereinafter referred to as Two Offices) issued the Opinions on Deepening the Reform of the Review and Approval System to Encourage Innovation in Drugs and Medical Devices (hereinafter referred to as the Opinions), pointing out that the pharmaceutical and medical device industry in China is developing rapidly, innovative enterprises

审评审批制度改革持续推进。但总体上看，中国药品医疗器械科技创新支撑不够，上市产品质量与国际先进水平存在差距。为促进药品医疗器械产业结构调整和技术创新，提高产业竞争力，满足公众临床需要，需要深化审评审批制度改革鼓励药品医疗器械创新。《意见》提出，要通过建立上市药品目录集、探索建立药品专利链接制度、开展药品专利期限补偿制度试点、完善和落实药品试验数据保护制度等措施，促进药品创新和仿制药的发展。据此，两办已经明确了在中国建立药品专利链接制度的方向。

are springing up, and the reform of the review and approval system continues to move forward. However, in general, there is still lack of technological innovation support for China's pharmaceutical and medical device industries, and a gap between the quality of products on the domestic market and the international advanced level. In order to promote the adjustment of industrial structure and technological innovation of the industries, improve industrial competitiveness and meet the clinical needs of the public, we need to deepen the reform of review and approval system to encourage the innovation in drugs and medical devices. According to the Opinions, measures should be taken to promote the development of drug innovation and generic drugs, such as establishing a catalogue of drugs on the market, exploring the establishment of pharmaceutical patent linkage system, carrying out the pilot project for the compensation system for the drug patent duration, and improving and implementing the drug trial data protection system. Accordingly, the Two Offices have confirmed the resolution to establish the pharmaceutical patent linkage system in China.

2017年12月28日，国家食品药品监督管理总局（CFDA）[1]发布了关于《中国上市药品目录集》的公告（2017年第172号），指出：为维护公众用药权益，提高药品质量，降低用药负担，鼓励药物研发创新，CFDA组织制定了《中国上市药品目录集》。《中国上市药品目录集》（以下简称《目录集》）是CFDA发布批准上市药品信息的载体。由

On December 28, 2017, China Food and Drug Administration (CFDA)[1] issued a public announcement on the Approved Drug Catalog of China ("the Catalog" for short, Document No. 172 in 2017), pointing out the Catalog is intended to protect the public rights and interests in drug use, improve the quality of drugs, alleviate the burden of drug use, and encourage drug research and innovation. The Catalog is the carrier for CFDA to release the information of approved drugs on the market. As China has not yet established a pharmaceutical patent linkage system, the purpose of publication of the Catalog is mainly to meet the requirements of "generic drug equivalence eval-

[1] 根据中国共产党第十九届中央委员会第三次全体会议通过，并于2018年3月印发的《深化党和国家机构改革方案》之规定，将国家工商行政管理总局的职责，国家质量监督检验检疫总局的职责，国家食品药品监督管理总局的职责，国家发展和改革委员会的价格监督检查与反垄断执法职责，商务部的经营者集中反垄断执法以及国务院反垄断委员会办公室等职责整合，组建国家市场监督管理总局，作为国务院直属机构。其主要职责是，负责市场综合监督管理，统一登记市场主体并建立信息公示和共享机制，组织市场监管综合执法工作，承担反垄断统一执法，规范和维护市场秩序，组织实施质量强国战略，负责工业产品质量安全、食品安全、特种设备安全监管，统一管理计量标准、检验检测、认证认可工作等。组建国家药品监督管理局，由国家市场监督管理总局管理，主要职责是负责药品、化妆品、医疗器械的注册并实施监督管理。如无特别说明，本报告中，CFDA指的是2018年3月机构改革前的国家食品药品监督管理总局，国家药监局指的是2018年3月机构改革后的国家市场监督管理总局国家药品监督管理局。本报告在提及2018年3月之前的药品监督管理部门时，相关主体名称均使用“CFDA”，而提出相关的建议若涉及药品监督管理部门，则相关主体名称均使用“国家药监局”或“国家药监部门”。

[1] As the decision of the Third Plenary Session of the 19th Central Committee of the CPC, and the "Continuing the Reform of Party and Government Institutions" issued in March 2018, the responsibilities of the State Administration for Industry and Commerce, the General Administration of Quality Supervision, Inspection and Quarantine, China Food and Drug Administration, and the price supervision, inspection and anti-monopoly functions of National Development and Reform Commission were all integrated into the State Administration for Market Regulation (SAMR), as an institution directly affiliated to the State Council. It is mainly responsible for the comprehensive supervision and management of the market, unified registration of market entities, establishment of information bulletin and sharing mechanism, comprehensive law enforcement of market supervision, the anti-monopoly law enforcement, regulation and maintenance of market order, implementation of quality power strategy, safety supervision of industrial product quality, food and special equipment, unified management of measurement standards, inspection, testing, certification and accreditation, etc. National Medical Products Administration (NMPA) was also established under the SAMR, and is mainly responsible for the registration and supervision of drugs, cosmetics and medical devices. In this report, unless otherwise specified, CFDA refers to the China Food and Drug Administration before the institutional reform in March 2018, while NMPA stands for the National Medical Products Administration after the institutional reform in March 2018. In this report, when referring to the drug regulatory agency before March 2018, its name is "CFDA"; if the drug regulatory agency is mentioned when a proposal or suggestion is made, its name is "National Medical Products Administration" or NMPA.

于中国尚未建立药品专利链接制度，《目录集》的出台，更主要的是为了满足“仿制药一致性评价”的要求。在两办已经发布相关《意见》的基础上，在中国探索建立药品专利链接制度的过程中，《目录集》中所登载的内容以及该《目录集》是否可以满足中国药品专利链接制度的要求值得进一步深入研究。

基于此，务实中心与RDPAC合作开展《中国上市药品目录集》与美国“桔皮书”的比较研究，旨在为完善《目录集》，使其能在中国药品专利链接制度的实施过程中有效发挥作用提供意见与建议。

需要说明的是，由于专业原因，务实中心主要是从药品专利保护的角度开展研究，对于美国桔皮书和《目录集》中所涉及的药品领域的专业问题，由于学识所限，不做赘述。

uation". On the basis of the Opinions issued by the Two Offices, and while the establishment of pharmaceutical patent linkage system is being explored in China, it is worth further study whether the Catalog and the content of it can meet the requirements of the system.

For this purpose, the BIPI has cooperated with RDPAC to carry out a comparative study between the Catalog and the "Orange Book" of the United States, which aims to provide opinions and suggestions for improving the Catalog and bringing it into full play in the implementation of the Chinese pharmaceutical patent linkage system.

It should be noted that due to professional reasons and limited knowledge, the BIPI carries out the study mainly from the perspective of drug patent protection, and does not elaborate on the professional problems in the pharmaceutical field involved in the Orange Book of the United States and the Catalog.

1. 美国“桔皮书”制度及其评述

“ORANGE BOOK” SYSTEM AND COMMENTS ON IT

（一）桔皮书制度的来龙去脉

美国于1906年通过了《食品和药品法案》，该法案并不要求药物在销售之前在动物或者人身上进行安全性检测，不要求药厂提供有效证据。1912年国会通过了《食品和药品法案》的一条修正案，规定：如果FDA认为药厂存在虚假广告行为，比如某药厂宣称它的某种药能治某种肿瘤，FDA不能靠证明这个药有没有效来做决定，而是要靠证明这个药确实无效来做决定。这一情况一直持续到1937年，美国发生了著名的“磺胺酏事件”。这是上世纪影响最大的药害

(I) The Origin and Development of “Orange Book” System

In 1906, the United States passed the Federal Food and Drug Act, which did not require prior testing of drugs for safety on human body or animals before they are sold, and did not require drug makers to prove the effectiveness of their drugs. In 1912, the Congress passed an amendment to the Federal Food and Drug Act, which stipulated that if the FDA believes that a drug maker is engaged in false advertising, for example, a drug maker claims that a drug can cure a certain tumor, the FDA cannot make a decision by proving whether the drug is effective or not, but by proving that the drug is indeed ineffective. The situation lasted until 1937, when the famous "Elixir

事件之一。针对该事件，美国国会于1938年通过了FD&A法案，该法案开始了影响深远的“新药申请”流程（以下简称“NDA”）；授权FDA对新药进行严格审查，只有制药商证明新药是安全的，药物才能上市销售；要求药品制造商对药物加以充分标注，标签上必须列举所有的有效成分和警告，并配以详细的安全使用说明。如果发现药品对健康有影响，FDA有权禁止其销售。该法案的实施使得美国在引发欧洲出现大量畸形儿的“反应停事件”中幸免于难。

此后，美国更加重视药品的安全问题，并于1962年通过了《卡法尔—哈里斯法案》（Kefauver-Harris Amendment）。该法案的主要变化包括：（1）要求生产商在药品上市前证明药品的有效性，并在上市之后报告任何严重的副作用。（2）要求有效

Sulfanilamide disaster" occurred in the United States. This was one of the most consequential mass poisonings of the 20th century. In response to the disaster, the U.S. Congress passed the Food, Drugs, and Cosmetic Act (FDCA) in 1938, which established the far-reaching New Drug Application (NDA) process. The legislation gave FDA weight to conduct rigorous review of new drugs and demand that drug makers prove that their drugs are both safe and effective before they are put on the market. The drug makers were required to list all the effective ingredients and warnings on the label, and detailed safety instructions must be available. If a drug was found to have an adverse effect on health, FDA had the right to ban its sale. The implementation of FDCA spared the United States from the "thalidomide crisis" that caused the birth of several thousand deformed babies in Europe.

Afterwards, the United States attached greater importance to the drug safety issue, and enacted Kefauver-Harris Amendment in 1962. The Amendment changed the following: (1) Required that drug makers prove the effectiveness of drug products before they go on the market, and afterwards report any serious side effects. (2) Required that evidence of effectiveness be based on adequate and well-controlled clinical studies conducted by qualified experts. Study subjects would be required to give their informed consent. (3) Gave the FDA 180 days to approve

性证明须基于合格专家进行的充分并受到良好控制的临床试验。试验受试者须给予知情同意。（3）FDA 可在 180 天内批准新药申请，药品在美国上市前需得到 FDA 的批准。（4）要求 FDA 对 1938 年至 1962 年间获得安全性批准（但未获得有效性批准）的药品的有效性进行回溯性评估。[2]（5）允许 FDA 为行业制定药品生产质量管理规范，并要求对生产设施进行定期检查。（6）处方药广告交由 FDA 管理（此类广告须包括关于副作用的准确信息）。（7）控制仿制药上市，防止其以新商品名称作为昂贵药品销售。[3]1962 年修正案又称“零风险管制”，是美国食品药物“零风险管制”政策体系的重要组成部分，该理念的主导地位持续了近三十年。[4]

a new drug application, and required FDA approval before the drug could be marketed in the United States. (4) Mandated that the FDA conduct a retrospective evaluation of the effectiveness of drugs approved for safety—but not for effectiveness—between 1938 and 1962.[2] (5) Allowed the FDA to set good manufacturing practices for the industry and mandated regular inspections of production facilities. (6) Transferred control of prescription drug advertising to the FDA, which included accurate information about side effects. (7) Controlled the marketing of generic drugs to keep them from being sold as expensive medications under new brand names.[3] The 1962 Amendment, also known as "Zero-risk Regulation", is an important part of the Zero-risk Regulation food and drug policy system in the United States. The dominant position of this concept has lasted for nearly 30 years.[4]

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[2] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 66, 83 页 (2014)。 FDA 执行的此项回溯性评估（由美国国家科学院 / 美国国家科研委员会执行）称为药物有效性评价（DESI）。77 Fed. Reg. 43,337, 43,338 (2012 年 7 月 24 日)

[3] FDA，《Kefauver-Harris 修正案给药品开发带来革命》（2012）（FDA 1962 年修正案历史），https://www.fda.gov/consumers/consumer-updates/kefauver-harris-amendments-revolutionized-drugdevelopment。

[4] 陈永法，胡廷熹：《浅析 FDA 管理药品的成功经验》，载《药学进展》1999 年第 1 期，第 37-39 页。

[2] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, p66 and 83. The retrospective evaluation conducted by FDA (executed by the U.S. National Academy of Sciences/National Research Council) is called Drug Efficacy Study Implementation (DESI). 77 Fed. Reg. 43,337, 43,338 (July 24, 2012)

[3] FDA, Kefauver-Harris Amendments Revolutionizes Drug Development (2012) (History of FDA 1962 Amendments), https://www.fda.gov/consumers/consumer-updates/kefauver-harris-amendments-revolutionized-drugdevelopment.

[4] Chen Yongfa, Hu Tingxi: Analysis of FDA's Successful Experience in Drug Administration, Progress in Pharmaceutical Sciences, 1999, Issue 1, pp. 37-39.

同时，关于药房级药物替代品的州法也在变化之中。禁止药物替代品的法律在上世纪五六十年代变得常见。最后两个州也于 1971 年颁布了此类法律。[5] 但 1971 年，美国药剂师协会呼吁撤销此类法律，因为其成员认为，此类法律未能保护药剂师或患者的利益。[6]

Meanwhile, state laws on pharmacy-grade substitute drugs were also changing. Laws banning substitute drugs became common in the 1950s and 1960s. In 1971, the last two states followed suit to enact such laws. [5] However, in the same year, the American Pharmacists Association called for the repeal of such laws because its members believed that such laws failed to protect the interests of pharmacists or patients.[6]

桔皮书的出现正值美国药物有效性评价（DESI）计划与反药物替代品法律撤销的交汇点。 在上世纪七十年代，美国仿制药产业兴起，主要涉及上市 DESI 药品（即在 1962 年实施前符合法定要求、获得 FDA 批准且在 DESI 计划下被认定有效的药品）的仿制版本。[7] 同样也在七十年代，一些州修订了法律，批准了作为替代品的仿制药。[8] 但关于如何实施这种替代，各州采取了不同的方法。有些州制订了“负面处方集”，

The Orange Book came at the juncture of the Drug Efficacy Study Implementation (DESI) program and the repeal of the anti-substitute law. In the 1970s, the rise of the American generic drug industry mainly involved the generic version of the DESI drugs on the market (i.e. the drugs in compliance with statutory requirements and approved by FDA before the implementation of 1962 Amendment, and accredited as effective drugs under the DESI program). [7] In the same period, some states amended their laws to encourage the substitution of drug products, [8] but different states took different approaches to the substitution.

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[5] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 140-142 页 (2014)。

[6] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 140-142 页 (2014)。

[7] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 66, 83 页 (2014)。

[8] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 148-149 页 (2014)。

[5] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, pp. 140-142 (2014).

[6] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, pp. 140-142 (2014).

[7] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, p66 and 83 (2014).

[8] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, pp. 148-149 (2014).

列明了因缺乏等效性证明而不能被替代的药品，而另一些州则制订了“正面处方集”，列明了已被认定具有等效性因而有资格作为替代品的药品。[9] 有些州认为设立正面处方集“既昂贵也可怕，因为这给仿制药生产商和州政府机构造成了认定产品等效性的更大负担”。[10]

鉴于各州制订了各种不同的正面和负面处方集，FDA 在 1975 年制订了一个被认为有实际或潜在生物等效性问题的药品清单，该清单后来作为蓝皮书发布。[11] 到 1978 年，鉴于蓝皮书的负面处方集可能阻碍仿制药的使用，消费者团体敦促 FDA 发布一份全国统一的正面处方集。[12]

一名历史学者这样描述桔皮书的发展：1977 年，一名纽约替代品法律的倡导者从一名 FDA 高级官员那儿获

These state laws generally require either that substitution be limited to drugs on a specific list (the positive formulary approach) or that it be permitted for all drugs except those prohibited by a particular list (the negative formulary approach). [9] Some states consider the positive formulary approach as "expensive and terrifying, as it places a greater burden on generic drug makers and state government to determine therapeutic equivalence." [10]

Considering that different states adopted various positive and negative formulary approaches, in 1975, FDA developed a list of drug products for which actual or potential bioequivalence problems had not been resolved. The list was later published as a blue book. [11] By 1978, consumer groups urged the FDA to publish a unified positive formulary for the whole country, given that the negative formulary in the blue book could hinder the use of generic drugs.[12]

A historian described the development of the Orange Book as follows: in 1977, an

[9] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 140-150 页 (2014)。

[10] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 150 页 (2014)。

[11] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 152-153 页 (2014)。

[12] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 153 页 (2014)。

[9] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, pp. 140-150 (2014).

[10] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, p150 (2014).

[11] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, pp. 152-153 (2014).

[12] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, p153 (2014).

知，FDA 已掌握为美国国防部制订正面处方集的足够信息。[13] 该倡导者基于信息自由法案获得了相关文件，并将这些材料制作成一份正面处方集，称之为绿皮书。[14] 之后，他向 FDA 施压，要求支持绿皮书，因为其乃基于 FDA 自有的文件，并于 1978 年获得了 FDA 局长的支持声明。[15] 不久后 FDA 就被要求审查并认可其他州的处方集。[16] 但 FDA 局长并未这么做，而是决定以桔皮书形式发布一份治疗等效药品的统一清单。[17]

1979 年 1 月，桔皮书作为一份提案分发到各州。它仅包含了根据 FD&A 法案第 505 条规定通过新药申请（NDA）和简略新药申请（ANDA）

advocate of New York's drug substitution law learned from a senior FDA official that the FDA had sufficient information to develop a positive formulary for the U.S. Department of Defense.[13] The advocate obtained the related documents based on the Information Freedom Act and produced a positive formulary out of these documents, which was called the "Green Paper".[14] After that, he put pressure on the FDA to support the Green Paper, which was based on FDA's own documents, and obtained the FDA Commissioner's support statement in 1978.[15] Before long, the FDA was asked to review and approve formularies of some other states.[16] Instead of doing so, however, the FDA Commissioner decided to publish a unified list of drugs with therapeutic equivalence in the form of Orange Book.[17]

The Orange Book was distributed as a proposal in January 1979. It included only currently marketed prescription drug products approved by FDA through new drug applications (NDAs) and abbreviated new drug applications (ANDAs) under the provisions of Section 505 of the FDCA. Finally, the Orange Book was published in October

[13] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 158 页 (2014)。

[14] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 158 页 (2014)。

[15] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 158-163 页 (2014)。

[16] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 164 页 (2014)。

[17] Jeremy A. Greene，《仿制药：现代医药的去品牌化》第 164-165 页 (2014)。

[13] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, p158 (2014).

[14] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, p158 (2014).

[15] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, pp. 158-163 (2014).

[16] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, p164 (2014).

[17] Jeremy A. Greene, Generic Drugs: the Unbranding of Modern Medicine, pp. 164-165 (2014).

获得 FDA 批准的上市销售处方药。最终，FDA 于 1980 年 10 月首次发布桔皮书。[18] 在 1984 年 Hatch-Waxman 法案颁布后，FDA 以桔皮书来满足“该机构应发布、公开及按月更新包含特定项目（包括专利信息）的已批准产品清单” 的法定要求。[19]

（二）美国“桔皮书”制度的主要内容

1. 桔皮书的制定机构

桔皮书由来自 FDA 药品审评和研究中心、仿制药办公室、仿制药政策办公室、法律和监管支持部等部门的工作人员制定。桔皮书工作人员负责维护和更新桔皮书的内容。约有八名员工负责维护，另有五名左右的员工负责确保 FDA 对简略新药申

1980 for the first time.[18] Hatch-Waxman Amendments of 1984 required that FDA "make publicly available a list of approved drug products with monthly supplements, which contains specific items (including patent information)." The Orange Book and its monthly cumulative supplements satisfied this requirement. [19]

(II) Main Content of the "Orange Book" System

1. Enacting Bodies of the Orange Book

The Orange Book has been developed by the staff from FDA Center for Drug Evaluation and Research, Office of Generic Drugs, Office of Generic Policy, Office of Regulatory Affairs and other departments. They are responsible for maintaining and updating the content of the Orange Book. About eight employees are responsible for maintenance, and five or so ensuring that FDA’ s approval of ANDA (i.e., generic

[18] FDA，经过治疗等效性评价批准的药品（桔皮书），序，iv-v（2019 年第 39 版）。

[19] FDA，经过治疗等效性评价批准的药品（桔皮书），序，iv-v（2019 年第 39 版）；联邦食品、药品和化妆品法案（FDCA）第 505(j)(7) 条。

[18] FDA, the Preface of the Approved Drug Products with Therapeutic Equivalence Evaluations (the "Orange Book"), iv-v (2019, 39th Edition).

[19] FDA, the Preface of the Approved Drug Products with Therapeutic Equivalence Evaluations (the "Orange Book"), iv-v (2019, 39th Edition); Section 505(j) (7) of the Federal Food, Drug, and Cosmetic Act (FD&C Act).

请（即仿制药申请）的批准符合专利链接制度所适用的法律。

2. 桔皮书的主要内容

正如桔皮书的前言指出的，桔皮书由四部分组成：（1）经过批准、具有治疗等效性评价的处方药品；（2）经过批准的非处方药（OTC），此类药品未收录在现有的 OTC 各论中，因此不通过 NDA 或 ANDA 将无法上市销售；（3）生物制品评价与研究中心依照 FD&C 法案第 505 节批准监管的药品；（4）获批药品累积列表，此类药品从未上市销售，用于出口、军用，并且尚未确定其因安全性或有效性原因撤市，或非因安全性或有效性被撤销批准而导致撤市。[20] 桔皮书同时收录了以商品名（专有名称）或确定的名称（如无商品名）及申请人名称（获批申请持有人）排序的处方药和非处方药的目录。活性成分的

drug applications) complies with the laws applicable to the patent linkage system.

2. Main Content of the Orange Book

As is stated in its preface, the Orange Book is composed of four parts: (1) approved prescription drug products with therapeutic equivalence evaluations; (2) approved over the counter (OTC) drug products for those drugs that may not be marketed without NDAs or ANDAs because they are not covered under existing OTC monographs; (3) drug products with approval under Section 505 of the FDCA administered by the Center for Biologics Evaluation and Research; and (4) a cumulative list of approved products that have never been marketed, are for exportation, are for military use, have been discontinued from marketing and we have not determined that they were withdrawn from sale for safety or effectiveness reasons, or have had their approvals withdrawn for other than safety or efficacy reasons subsequent to being discontinued from marketing.[20] This publication also includes indices of prescription and OTC

[20] 一般来说，根据配制要求（处方或 OTC）或批准机构，将新批准的药品添加到桔皮书的“活动章节”（即处方药目录或非处方药目录），除非桔皮书工作人员在公布前另有通知。参见桔皮书第 1.12 节。

[20] Generally speaking, newly approved drugs are added to the List of Prescription Drugs or the List of OTC Drugs, depending on the requirements (prescription or OTC) and approving authorities. Please refer to the Section 1.12 of the Orange Book.

所有确定的名称均与 21 CFR 299.4(e) 中规定的官方药典名称或《美国通用药名》(USAN) 保持一致。此外，附录 C 还提供了一份统一术语列表。

《增补版》包含了处方药、非处方药、停用药品目录及生物制品评价与研究中心依照 FD&A 法案第 505 条批准监管的药品专利与独占权信息。此外，桔皮书中还包含 FDA 认为适合公布的额外信息。

在第六版之前，桔皮书并不包含非处方药及由生物 制品评价与研究中心依照 FD&A 法案第 505 条批准监管的药品。Hatch-Waxman 法案要求 FDA 发布所有安全性和有效性以及其所有依新药申请获得批准的上市销售药品（非处方药及处方药）的最新目录。

依照 FD&A 法案，部分药品获得临时批准。

drug products by brand name (proprietary name) or established name (if no brand name exists) and by applicant name (holder of the approved application), which have been abbreviated for this publication. Established names for active ingredients generally conform to official compendial names or United States Adopted Names (USAN) as described in 21 CFR 299.4(e). A list of uniform terms is provided in Appendix C.

The Addendum contains patent and exclusivity information for the Prescription, OTC, Discontinued Drug Product Lists, and for the Drug Products with Approval under Section 505 of the FDCA Administered by the Center for Biologics Evaluation and Research. The publication may include additional information that the Agency deems appropriate to disseminate.

Prior to the 6th Edition, the publication had excluded OTC drug products and drug products with approval under Section 505 of the FDCA administered by the Center for Biologics Evaluation and Research. The Hatch-Waxman Amendments required the FDA to begin publishing an up to date list of all marketed drug products, OTC as well as prescription, that have been approved for safety and efficacy and for which new drug applications are required.

Under the FDCA, some drug products are given tentative approvals. The FDA will not include

FDA 不会将临时批准的药品收入桔皮书，因为临时批准的药品并非已获批药品。通过向申请人发出后续实施函，临时批准变成完全批准时，FDA 将在相应的获批药品目录中列出该药品及批准日期。此外，第 505(x) 条可能会对受管制物质法约束的某些非处方药的批准日期产生影响。FDA 将按照第 505(x) 条确定批准日期在桔皮书中收录该药品。

drug products with tentative approvals in the Orange Book because a drug product that is granted tentative approval is not an approved drug product. When the tentative approval becomes a final approval through a subsequent action letter to the applicant, the FDA will list the drug product and the date of approval in the appropriate approved drug product list. In addition, we note that Section 505(x) of the FDCA affects the date of approval for certain drug products subject to scheduling under the Controlled Substances Act. The FDA will list the drug product in the Orange Book and the date of approval as determined under Section 505(x).

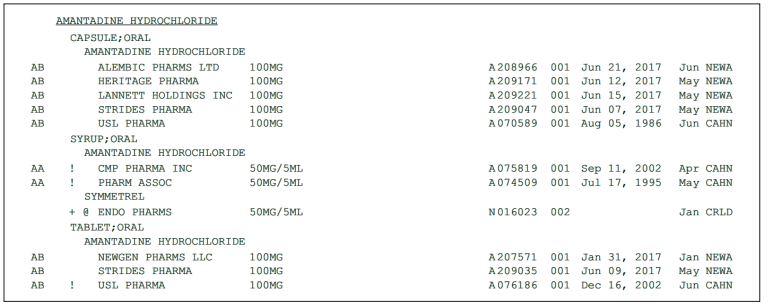
桔皮书指明药品的申请持有人，但不指明分销商或重新包装商。2005 年起，FDA 每年出版桔皮书（Annual Edition）及每月补充版（Cumulative Supplement）的纸质版及网页版。每年出版的桔皮书中详细登载了 FDA 批准的所有药品的安全性及适应症信息，而每月的补充版则登载 FDA 新批准的药品、药品信息、治疗等效性信息、专利信息等的补充及修正。纸质版与网页版在排版及标识符号上有微小区别。

The Orange Book identifies the application holder of a drug product and does not identify distributors or repackagers. Since 2005, the FDA has published the Orange Book annually (Annual Edition) and the monthly supplement (Cumulative Supplement) in both paper and Web versions. The annual edition contains detailed safety and indication information of all drugs approved by FDA, while the Cumulative Supplement contains the supplement and amendment of new drugs approved by FDA, drug information, therapeutic equivalence information, patent information, etc. There are slight differences between paper version and Web version in typesetting and logo.

The paper version of Orange Book adopts the

纸质版桔皮书采取了横向排版形式，每一产品的信息占据横向的一条空间，不过由于纸张尺寸有限，部分信息采用符号等形式表示，而非专列一栏。例如下图中的“AB”也即网页版中的“TE代码”栏目内容；“+”代表该产品为参比制剂（RLD），而“！”代表该产品为标准制剂（RS）。

form of horizontal layout, with information of each product occupying a horizontal space. However, due to the limited size of paper, some information is represented in the form of symbols rather than in a special column. For example, the "AB" in the figure below corresponds to the "TE Code" column in the Web version; "+" means that the product is a Reference Listed Drug (RLD), while "!" means that the product is a Reference Standard (RS).



AMANTADINE HYDROCHLORIDE

CAPSULE;ORAL

AMANTADINE HYDROCHLORIDE

AB		ALEMBIC PHARMS LTD	100MG	A208966	001	Jun 21, 2017	Jun	NEWA
AB		HERITAGE PHARMA	100MG	A209171	001	Jun 12, 2017	May	NEWA
AB		LANNETT HOLDINGS INC	100MG	A209221	001	Jun 15, 2017	May	NEWA
AB		STRIDES PHARMA	100MG	A209047	001	Jun 07, 2017	May	NEWA
AB		USL PHARMA	100MG	A070589	001	Aug 05, 1986	Jun	CAHN

SYRUP;ORAL

AMANTADINE HYDROCHLORIDE

AA	!	CMP PHARMA INC	50MG/5ML	A075819	001	Sep 11, 2002	Apr	CAHN
AA	!	PHARM ASSOC	50MG/5ML	A074509	001	Jul 17, 1995	May	CAHN

SYMMETREL

+	@	ENDO PHARMS	50MG/5ML	N016023	002		Jan	CRLD

TABLET;ORAL

AMANTADINE HYDROCHLORIDE

AB		NEWGEN PHARMS LLC	100MG	A207571	001	Jan 31, 2017	Jan	NEWA
AB		STRIDES PHARMA	100MG	A209035	001	Jun 09, 2017	May	NEWA
AB	!	USL PHARMA	100MG	A076186	001	Dec 16, 2002	Jun	CAHN

美国纸质版桔皮书公示形式示例
An example of the paper version Orange Book of the United States

网页版桔皮书，即美国桔皮书数据库（the Orange Book Database）的查询入口和显示界面，是业内通常提及桔皮书时所指的对象，是桔皮书最主要的公示渠道之一。[21] 网页版桔皮书同样采取横向排版形式。

The Web version of the Orange Book, or query page and display interface of the U.S. Orange Book Database, is usually referred to when the Orange Book is mentioned in the industry, and is one of the most important distribution channels of the Orange Book. [21] The Web version Orange Book also adopts horizontal layout.

[21] 网页版桔皮书网址：https://www.accessdata.fda.gov/scripts/cder/ob/default.cfm

[21] The website of the Orange Book: https://www.accessdata.fda.gov/scripts/cder/ob/default.cfm

市场状态	有效成分	药品名	申请号	剂型	给药途径	规格	TE编码	参比制剂	参考标准	持有人
Mkt. Statu	Active Ingredient	Proprietary Name	Appl No	Dosage Form	Route	Strength	TE Code	RLD	RS	Applicant Holder
RX	ATORVASTATIN CALCIUM	LIPITOR	N020702	TABLET	ORAL	EQ 10MG BASE	AB	RLD		PFIZER INC
RX	ATORVASTATIN CALCIUM	LIPITOR	N020702	TABLET	ORAL	EQ 10MG BASE	AB	RLD		PFIZER INC
RX	ATORVASTATIN CALCIUM	ATORVASTATIN CALCIUM	A091226	TABLET	ORAL	EQ 10MG BASE	AB			MYLAN PHARMACEUTICALS INC

美国桔皮书网页版公示形式示例
An example of the Web version Orange Book of the United States

就桔皮书所披露的专利类型而言，根据相关规定，NDA 持有人须向 FDA 提交关于下列内容的信息：“主张申请人所提交申请的药品，或主张使用该药品的一种方法，或在一个未被所有者授权的人从事该药品生产、使用或销售的情况下可就该药品合理主张专利侵权的专利”。[22] 此要求适用于“原料药（活性成分）专利、药品（配方和组成）专利以及使用方法专利”。[23]FDA 将在桔皮书中列出关于 NDA 持有人提交的关于这些类型的专利的信息。[24] 而关于“工艺专利、主张包装权利的专利、主张代谢物权利的专利以及主张

In terms of the type of patent disclosed in the Orange Book, relevant regulations stipulate that, the NDA holder must submit to FDA information about the following: “patents that claim the drug that is the subject of the NDA, or a method of use for that drug, and with respect to which a claim of patent infringement could reasonably be asserted when a person who is not authorized by the owner is engaged in the production, use or sale of the drug.”[22] This requirement is applicable to “patents for Active Pharmaceutical Ingredients (APIs), drugs (formulations and compositions), and methods of use”.[23] FDA will list the information about these types of patents submitted by NDA holders in the Orange Book.[24]

[22] 《联邦食品、药品、化妆品法案》第 505(b)(1) 条。

[23] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(b)(1) 条。

[24] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(e) 条。

[22] Section 505 (b) (1) of the Federal Food, Drug, and Cosmetic Act.

[23] Section 314.53 (b) (1) of Title 21, the Code of Federal Regulations (CFR).

[24] Section 314.53 (e) of Title 21, the Code of Federal Regulations (CFR).

中间体权利的专利……”的信息不得向 FDA 提交，[25] 因而不会列入桔皮书。

FDA 应公布“申请人主动以及被要求向 FDA 提交的每项专利以及每个使用方法专利的专利号和到期日，专利主张的使用方法的描述……”[26]FDA 还公布 NDA 持有人是否指明该专利主张的是原料药内容和 / 或药品。此信息帮助 ANDA 或 505(b)(2) 申请人确定须提交相关证明或声明所针对的专利以及哪种类型的证明或声明是适当的。[27]

FDA 近期对桔皮书中发布的专利相关信息添加了两项要素：其一，电子版的桔皮书登载专利信息的提交日，以便于认定其是否迟于要求的日期提交，因而不

Whereas, “process patents, patents claiming packing, patents claiming metabolites, patents claiming intermediates…” shall not be submitted to FDA [25], and therefore will be excluded by the Orange Book.

FDA shall publish “the patent number and expiration date of each patent and each method-of-use patent, and the description of the method-of-use submitted (either voluntarily or required to do so) by the applicant to FDA …” [26] FDA also specifies whether the NDA holder indicated that the patent claims API content and/or a drug. This information helps the ANDA or 505 (b)(2) applicant to clarify the patent for which the relevant certification or statement is required and which type of certification or statement is appropriate.[27]

FDA recently added two items of patent related information to be published in the Orange Book: first, the submission date of the patent information shall be published in the Web version Orange Book, so as to determine whether it is submitted later

[25] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(e) 条。

[26] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(e) 条。

[27] 《联邦食品、药品、化妆品法案》第 505(b)(2)(A) & (B) 条；第 505(j)(2)(A)(vii) & (viii) 条。

[25] Section 314.53 (e) of Title 21, the Code of Federal Regulations (CFR).

[26] Section 314.53 (e) of Title 21, the Code of Federal Regulations (CFR).

[27] Section 505(b)(2)(A) & (B) and Section 505(j)(2)(A)(vii) & (viii) of the Federal Food, Drug, and Cosmetic Act.

会触发尚待批准的 ANDA 或 505(b)(2) 申请的专利证明或声明义务。[28] 其二，桔皮书明确标示 NDA 持有人要求删除专利信息的专利。即使 NDA 持有人要求不再发布一项专利，在相关首仿药 180 天独占期到期或被取消或放弃之前，该专利仍将在桔皮书中保留，以保留首仿药的独占权。[29]

就桔皮书与专利链接制度的关系而言，第 IV 段声明的通知不可于相关专利发布于桔皮书上之日后的首个工作日前发送。由于 30 个月的批准等待期开始于该通知收到之日，FDA 发布专利信息的延迟可能导致相关 30 个月批准等待期的起始日期（因而也包括终止日期）的推迟。除此之外，专利链接制度中的如下因素与桔皮书的更新没有直接关联，包括：ANDA 或 505(b)(2) 申请人必须基于一项已授权专利是否受限于 NDA 持有人的发布要

than the required date, and ensure it does not trigger the obligation of patent certification or statement for the pending ANDA or 505 (B) (2) application.[28] Second, the Orange Book clearly marks the patent, of which the NDA holder requests to delist the patent information. Even if the NDA holder requests not to issue a patent, the patent will remain in the Orange Book until the first generic company's 180-day exclusivity expires or is canceled or abandoned, to reserve the exclusive right of the first filer.[29]

In terms of the relationship between the Orange Book and the patent linkage system, the Paragraph IV Certification shall not be sent before the first working day after the date on which the relevant patent is published on the Orange Book. Since the ANDA 30-month stay of FDA approval starts on the date of receiving this notice, a delay in FDA's publication of patent information may result in a delay of starting date (and therefore the end date) of the 30-month stay. In addition, the following

[28] 参见《联邦法规汇编》（C.F.R.）第 21 篇第 314.50(i)(4) & 314.94(a)(12)(vi)(A) 条。

[29] FDA，行业指南，《180 天独占期：问答集》，第 10 页（2017 年 1 月）。

[28] Refer to Section 314.50(i) (4) & 314.94(a) (12) (vi)(A) of Title 21, the Code of Federal Regulations (CFR).

[29] FDA, Guidance for Industry, 180-day Exclusivity: Q&A, p10 (January 2017).

求作出专利声明，而不是 NDA 持有人是否为发布提交了有关该专利的信息，或桔皮书是否已更新；一项专利是否“延迟被发布”，以及因而不会作为要求持有尚待批准的 ANDA 或 505(b)(2) 条申请的申请人作出的证明或声明的依据，取决于专利信息的提交日期，而非 FDA 在桔皮书中发布专利信息的日期；是否提供 30 个月的批准等待期取决于专利信息是否在 ANDA 或 505(b)(2) 申请提交前提交，不取决于专利信息何时发布于桔皮书。实际上，尽管法律规定了 NDA 申请人应向 FDA 提交申请上市的药品所涉及的相关专利（包括专利申请号及专利到期日），以供 FDA 登载于桔皮书中[30]，但根据 Aaipharma Inc. V. Tomspon 一案的

factors in the patent linkage system are not directly related to the update of the Orange Book, including: ANDA or 505 (b) (2) applicants must provide a patent certification based on whether a granted patent is subject to the NDA holder' request to list the patent, rather than whether the NDA holder has submitted the patent information for listing, or whether the Orange Book has been updated; Whether the issue of a patent is delayed (and thus will not be taken as a basis to require applicants with pending ANDA or 505(b)(2) application to provide a certification or a statement) depends on the submission date of the patent information, instead of the date when the patent information is published in the Orange Book; whether 30-month stay of FDA approval is provided depends on whether the patent information has been submitted before ANDA or 505(b)(2) application is filed, instead of on when the patent information is published in the Orange Book. Although the law stipulates that NDA applicant should submit the patents (including patent application number and patent expiration date) related to the new drug application to FDA for their publication in the Orange Book, [30] based on the verdict of the Aaipharma Inc. V. Tomspon case, the

[30] 参见《联邦法规汇编》（C.F.R.）第 21 篇第 355(b)(1)(G) 条。

[30] Refer to Section 355(b)(1)(G) of Title 21, the Code of Federal Regulations (CFR).

判决结果，法院认为，相关法律条文应当理解为，NDA 申请人有义务登录相关专利，FDA 的责任在于公开 NDA 申请人提供的专利信息。[31] 虽然法律规定了 NDA 申请人有登录相关专利的义务，但现行法律并没有关于未登录相关专利的处罚规定，其所可能产生的法律后果体现为，一旦发生专利挑战，创新药企业或专利权人无权依据桔皮书所登载的专利获得主张 30 个月批准等待期的利益。

court holds that the relevant legal provisions should be interpreted in this way: the NDA applicant has the obligation to register the relevant patent, and the FDA's responsibility is to disseminate the patent information provided by the NDA applicant.[31] Although the law stipulates that NDA applicants have the obligation to register related patents, the current law does not provide for any punishment for not registering them, which may cause following legal consequences: once there is a patent challenge, the innovative pharmaceutical company or the patentee has no right to enjoy the protection from 30-month stay of FDA approval of generic ANDA because the patent has not been listed in the Orange Book.

3. 桔皮书的性质和功能

3. Nature and Functions of Orange Book

FDA 通过桔皮书来遵守 FD&A 法案第 505(j)(7) 条中提出的法定要求，该规定要求 FDA 制定并按月更新包含已批准药品特定信息的清单。此外，一项 FDA 法规要求该机构在桔皮书中公布某些专利信息。[32] 桔皮书的更新反映了来自

By the Orange Book, FDA meets the statutory requirements set forth in Section 505 (j)(7) of the FDCA, which requires FDA to develop and monthly update lists containing specific information about approved drugs. In addition, an FDA regulation requires the FDA to publish certain patent information in the Orange Book. [32]The Orange Book should be updated

[31] 参见Aaipharma Inc. V. Tomspon, 296 F.3d 227, 234-235 (Fed. Cir. 2002)。

[32] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(e) 条。

[31] Refer to Aaipharma Inc. V. Tomspon, 296 F.3d 227, 234-235 (Fed. Cir. 2002).

[32] Section 314.53(e) of Title 21, the Code of Federal Regulations (CFR).

FDA 数据库的药品批准和独占权信息、申报人提交的关于其产品上市状况的信息以及新药申请（NDA）持有人提交的专利信息的更新。

一般认为，桔皮书的主要功能包括：

（1）认定可作为仿制药参比制剂（RLD）或可用于按照 FD&A 法案第 505(b) (2) 条的申请（“505(b)(2) 申请”）之前已批准的药品；

（2）认定生物等效性标准制剂，即 ANDA 申请人须在体内生物等效性测试中使用的药品；

（3）认定与给定 RLD 治疗等效（因而可作为州法律下自动药房级替代品）的仿制药；

（4）认定适用于药品的独占期；

（5）认定与药品相关的已发布专利。ANDA 或 505(b) (2) 申请人需就桔皮书发布的每一项 RLD 专利或 505(b)(2) 申请情况下所依赖的已发布药品专利提交相关的专利证明或声明；

to reflect changes in drug approval and exclusivity data from FDA database, latest information about the product on the market submitted by the applicant, and new patent information submitted by the NDA holder.

Generally, the major functions of the Orange Book are considered as follows:

(1) Designates Reference Listed Drugs (RLD) for generic drugs, or drugs approved before application submitted under Section 505(b) (2) of FDCA ("505(b)(2) application")

(2) Designates reference standards to which the bioequivalence is compared, i.e., the drugs which ANDA applicants use for in vivo bioequivalence tests.

(3) Identifies generic drugs as therapeutically equivalent to the designated RLD (thus as automatic substitution implemented at the pharmacy level under state law);

(4) Confirms exclusivity expiration applicable to the drug;

(5) Identifies published patents related to the drug. ANDA or 505(b) (2) applicants must submit a patent certification or a statement regarding each RLD patent published by the Orange Book or published drug patent upon which the 505(b) (2) application relies.

（6）认定药品的上市状况（如是否被取消上市）；

（7）对于已下市不再出售的产品，桔皮书认定 FDA 确定并非出于安全性或有效性原因而被下市的产品（可允许产品作为参比制剂的结论）。

（三）美国“桔皮书”制度实施情况及其完善

1. “桔皮书”制度的完善

实践中，NDA 申请人或持有人通过 3542a 表（与申请一同提交）和 / 或 3542 表（在申请获得批准后 30 天内提交）提交专利信息，供发布于桔皮书。[33] 这些表格和随附指引可获取于 FDA 网站。[34]

自 1984 年 Hatch-Waxman 法案发布至今，桔皮书在实践中进行的修改和

(6) Identifies drug status (e.g. whether the drug is withdrawn from the market);

(7) Lists the products that have been withdrawn from the market due to reasons other than safety or effectiveness as confirmed by FDA (can be RLDs for generic drugs).

(III) Implementation and Evolution of the Orange Book System in the United States

1. The Evolution of Orange Book System

In practice, NDA applicant/holder submits (within 30 days of the application approval) patent information on FDA form 3542a and/or FDA form 3542, for its publication on the Orange Book. [33] These forms and instructions for them are available online on the FDA website.[34]

Since the Hatch-Waxman Act was enacted in 1984, amendments and improvements made on the Orange Book in the prac-

[33] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(c)(2)(i) & (ii) 条。

[34] 参见 FDA,《FDA 表格》(2018), https://www.fda.gov/about-fda/reports-manuals-forms/forms (搜索“3542”)。

[33] Section 314.53(c) (2) (i) & (ii) of Title 21, the Code of Federal Regulations (CFR).

[34] Refer to FDA, FDA Forms (2018), https://www.fda.gov/about-fda/reports-manuals-forms/forms (search "3542").

完善包括：专利和独占权信息首次出现于 1985 年版；1997 年创建了电子版本的桔皮书；2005 年版开始停止发布纸质版桔皮书；2009 年在专利和独占权附录中增加了“已要求删除”一栏；2017 年开始列明用于体内生物等效性研究的生物等效性标准制剂，并加入了专利信息提交至 FDA 的日期。

2016 年 10 月，美国 FDA 基于联邦贸易委员会（FTC）的一份报告[35] 以及一份法院的裁决[36] 对 ANDA 的相关规则，特别是与“桔皮书”相关的规则进行了修订[37]，主要包括：（1）明确了不及时在“桔皮书”中登记专利的后果，即仿制药上市申请人

tice includes: patent and exclusivity data, which first appeared in the 1985 edition; electronic version Orange Book created in 1997; paper version Orange Book ended in 2005; “Delist Requested” column added in the appendix of “Patents and Exclusivity” in 2009; listing of reference standards to which the bioequivalence is compared (i.e., the drugs which ANDA applicants use for in vivo bioequivalence tests) and the date when patent information is submitted to FDA starting from 2017.

In October 2016, based on a report of Federal Trade Commission (FTC)[35] and a court's decision[36], the U.S. FDA made amendments[37] on related ANDA regulations, especially those related to the Orange Book, which include: (1) clarified the consequence of delayed patent registration in the Orange Book,

[35] FTC：《专利期满前仿制药的上市：FTC 研究》（*Generic Drug Entry Prior to Patent Expiration: An FTC Study*）第 ii 条（2002 年 7 月）。该报告建议针对每个 ANDA 只允许一个 30 个月遏制期，并指出，在某些情况下，由于后续事件饿发生，首仿申请人 180 天专属独占期的开始并没有因为仿制药与创新药之间达成和解协议而推迟。

[36] *Mylan Pharms., Inc. v. Thompson*, 268 F.3d 1323 (Fed. Cir. 2001)，该裁决指出，在 2003 年《医疗保险处方药、改善和现代化法案》（MMA）之前，仿制药申请人没有取消“桔皮书”中所登记的专利的司法救济途径，为此，MMA 增加了纠正“桔皮书”中所记载的专利信息的反诉规定。

[37] FDA：《简略新药申请和 502(b)(2) 申请》（*Abbreviated New Drug Applications and 505(b)(2) Applications*），81 Fed. Reg. 69,580（2016 年 10 月 6 日）

[35] FTC: Section ii of Generic Drug Entry Prior to Patent Expiration: An FTC Study (July 2002). The report suggested that only a 30-month stay should be allowed for each ANDA, and pointed out that, for the occurrence of follow-up events in certain situations, the start of 180-day exclusivity for the applicant of first version generic drug will not be postponed due to reconciliation agreement between generic drug and innovative drug.

[36] Mylan Pharms., Inc. v. Thompson, 268 F.3d 1323 (Fed. Cir. 2001). The ruling pointed out that before the Medicare Modernization Act (MMA) in 2003, ANDA applicants had no judicial remedy to cancel the patents registered in the Orange Book. In view of this, a counterclaim provision was added to the MMA to correct patent information included in the Orange Book.

[37] FDA: Abbreviated New Drug Applications and 505(b) (2) Applications, 81 Fed. Reg. 69,580 (October 6, 2016).

无需就其后续仿制药上市申请提交后才登记在“桔皮书”中的专利作出声明；（2）简化了原料药和 / 或药品专利的部分专利登记要求，细化了使用方法专利的用途编号要求；（3）明确规定，在 FDA 通知 ANDA 申请人其后续仿制药上市申请已经被受理之前，不得向专利权人或上市药品批件持有人送达其第四段声明；（4）增加了对“桔皮书”中所登记专利的纠正程序。

i.e., generic drug applicants do not need to provide a certification for the patents registered in the Orange Book after ANDA has been submitted; (2) simplified some registration requirements for API and/or drug patents, and specified the use code requirements for method-of-use patents; (3) clearly stipulated that the Paragraph IV Certification shall not be delivered to the patentee or the marketing approval holder of a drug before FDA informs the ANDA applicant that its follow-up generic drug marketing application has been accepted; (4) added a remedy procedure for the patent listed in the “Orange Book”.

2. 关于登记错误或不当的救济

实践中，由于 FDA 对登记在桔皮书中的专利信息并不进行实质审查，因此，NDA 申请人所登记专利可能出现登记错误或登记不当的情形，具体而言，包括：（1）应登记而未登记的专利，这种情况通常发生在 NDA 申请人与专利权人并非同一人的情形。如前所述，该种情形法律上并没有明确的处罚规定，所可能产生的法律后果是 NDA 申请人或专利权人无法基于桔皮书中所登记的专利主张 30 个月的

2. Remedies for Erroneous or Improper Patent Registration

In practice, FDA does not conduct a substantive review on the patent information to be listed in the Orange Book, so there may be errors or improprieties in NDA applicants' patent registration, including in particular the following situations: (1) the patent has not been registered, which usually occurs when the NDA applicant and the patentee are not the same person. As mentioned above, current law does not provide for any punishment for not registering them, which may cause

批准等待期。（2）不当登记的专利，即 NDA 申请人将不符合规定或与所申请批准的药品无关的专利登记于桔皮书中，由此可能导致 NDA 申请人借助于不当登记的专利延迟 ANDA 申请，使之不得不进入 30 个月的批准等待期。这种情形将导致仿制药的上市被不当延迟，损害社会公众的利益。

在 2003 年 Hatch-Waxman 法案修改之前，法律上并没有关于仿制药或第三人有权主动请求创新药厂修改或删除登记的专利信息的规定，实践中，仿制药企业往往诉诸竞争法，寻求救济。也有仿制药企业就此对创新药企业提起诉讼[38]，但最终达成了和解。

following legal consequences: once there is a patent challenge, the NDA applicant or the patentee has no right to enjoy the protection from 30-month stay of FDA approval of generic ANDA because the patent has not been listed in the Orange Book. (2) the patent is improperly registered, that is, the NDA applicant registers in the Orange Book patents that do not meet the requirements or have nothing to do with the drug to be approved. In this way, the NDA applicant can delay the ANDA with the improperly registered patent, so that generic ANDA has to be subject to the 30-month stay of FDA approval. This situation will lead to the improper delay of the marketing of generic drugs and damage the interests of the public.

Before the Hatch-Waxman Act was amended in 2003, a generic drug company or a third person has no lawful right to request an NDA holder to revise or delist registered patent information. In practice, generic drug companies often resort to competition law to seek relief. Some generic drug companies filed lawsuits against an NDA

[38] 参见 Biovail 案，FTC, Biovail Corporation (Administrative), avaliable at http://www.ftc.gov/enforcement/cases-proceedings/011-0094/biovail-corporation (last visited Dec. 15, 2014)，以及 Bristol-Myers Squibb Company 案，FTC,Bristol-Myers SquibbCompany(Administrative),avaliable at http://www.ftc.gov/sites/default/files/documents/cases/2003/03/bristolmyerscmp.pdf(lastvisitedDec.15,2014).

[38] Refer to Biovail case, FTC, Biovail Corporation (Administrative), avaliable at http://www.ftc.gov/enforcement/cases-proceedings/011-0094/biovail-corporation (last visited Dec. 15, 2014), and Bristol-Myers Squibb Company case, FTC, Bristol-MyersSquibbComp any (Administrative), avaliable at http://www.ftc.gov/sites/default/files/documents/cases/2003/03/bristolmyerscmp.pdf (lastvisitedDec.15,2014).

对于桔皮书中存在的信息变动或者错误登记，FDA 要求，如果 NDA 持有人确定一项专利或专利权利要求不再符合发布的要求，NDA 持有人应及时通知 FDA 修订专利信息。[39]FDA 的法规也要求，如果专利期延长，NDA 持有人应更正专利到期日，且允许 NDA 持有人更正或变更之前提交的专利信息。[40]

2003 年修法后，增加了反诉的相关规定，即法律允许 ANDA 或 505(b)(2) 申请人在专利侵权诉讼中提起反诉，基于专利未主张 NDA 获批相关药品或已批准的使用药品方法，申请要求 NDA 持有人更正或删除专利信息的命令。[41] 创新药企业也可以主动要求删除登记在桔皮书中的专利信息。FDA 将根据该专利是否会对 ANDA 申请人取得的 180 天的市场独占期产生影响作出是否删除的决定，若该信息删除与 180 天市场独占

holder,[38] and finally reached a settlement.

In case of information changes or erroneous registration in the Orange Book, FDA requires that if the NDA holder confirms that a patent or patent claim no longer meets the requirements of publication, the NDA holder shall notify FDA in time to revise the patent information.[39] FDA regulations also require that, if the patent duration is extended, the NDA holder shall correct the patent expiration date and the NDA holder is allowed to correct or modify the patent information previously submitted.[40]

After the amendment of the law in 2003, the provisions related to counterclaim were added, in which ANDA or 505 (b) (2) applicants were allowed to file counterclaim in patent infringement lawsuit, and apply for an order requiring the NDA holder to revise or delist the patent information based on the fact that the patent does not claim NDA's relevant approved drugs or the

[39] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(f)(2)(i) 条。

[40] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(f)(2)(ii)-(iii) 条。

[41] 《联邦食品、药品、化妆品法案第 505(c)(3)(D)(ii) & (j)(5)(C)(ii) 条。

[39] Refer to Section 314.53(f) (2) (i) of Title 21, the Code of Federal Regulations (CFR).

[40] Refer to Section 314.53(f) (2) (ii)-(iii) of Title 21, the Code of Federal Regulations (CFR).

[41] Section 505(c) (3) (D) (ii) & (j)(5)(C)(ii) of the Federal Food, Drug, and Cosmetic Act (FDCA).

期的取得无关，则将删除该信息；反之，则不予删除，但是会在桔皮书中“已要求删除”一栏中增加“Y（是）”的标识，表示该专利已被删除。[42] 专利信息的删除将可能导致 ANDA 申请所附加的声明由第 IV 段声明变更为第 I 段声明，并使 ANDA 申请人丧失 180 天市场独占期。在 Ranbaxy Laboratories Ltd. v. Leavitt[43]（FDA）一案中，哥伦比亚特区联邦巡回法院认为，FDA 以 ANDA 挑战的专利已经被 NDA 申请人主动删除为由，要求 ANDA 申请人放弃第四段声明，不符合 Hatch-Waxman 法案的规定，并将降低仿制药企业挑战创新药企业的积极性，亦不符合该法案的立法目的。该观点也为FDA所认可。

approved method-of-use. [41] NDA holders may also take the initiative to request the delisting of patent information registered in the Orange Book. FDA will make a decision on whether to delist the information based on whether the patent will affect the ANDA applicant's 180-day exclusivity. If the information delisting has nothing to do with the granting of 180-day exclusivity, the information will be delisted; otherwise, it will not be delisted. However, a "Y (yes)" mark will be added to the column of "Delist Requested" column in the Orange Book, meaning that the patent has been delisted. [42] With the delisting of the patent information, the certification attached to the ANDA application may need to shift from Paragraph IV Certification to Paragraph I Certification, and the ANDA applicant may lose the 180-day exclusivity. In the Ranbaxy Laboratories Ltd. v. Leavitt[43] (FDA) case, the Federal Circuit Court of the District of Columbia held that it did not comply with Hatch-Waxman Act for FDA to request the ANDA applicant to give up Paragraph IV Certification on the ground that the patent challenged by ANDA had been voluntarily

[42] 参见FDA，桔皮书数据文献，载 http://www.fda.gov/Drugs/InformationOnDrugs/ucm129689.htm。

[43] Ranbaxy Laboratories Ltd. v. Michael O. Leavitt, Secretary of Health and Human Services, etal., 469 F.3d 120(D.C.Cir.2006).

[42] Refer to FDA, the Orange Book data, available at http://www.fda.gov/Drugs/InformationOnDrugs/ ucm129689.htm.

[43] Ranbaxy Laboratories Ltd. v. Michael O. Leavitt, Secretary of Health and Human Services, etal., 469 F.3d 120(D.C.Cir.2006).

该判决之后，即使 NDA 申请人删除了相关专利，也不应影响 ANDA 申请人所应享有的180天市场独占期之取得，该专利应保留到第一个 180 天市场独占期届满之日。[44]

FDA 在其 2016 年修订的规则中，为纠正“桔皮书”中登记错误或不当的专利信息提供了行政救济途径，其具体规则和流程如下：任何人均可以就“桔皮书”中所登记的专利信息的准确性和相关性提出挑战。提出挑战者应向 FDA 提交陈述其争议理由的声明，FDA 将向新药申请（NDA）批件持有人送达该声明。NDA 批件持有人应在 30 日内确认系争信息的准确性，或者撤销或修订系争信息。若被挑战的专利信息与使用方法相关，则 NDA 批件持有人还应就其专利保护范围提交叙述性说明，对现有的或经修订的用途编号的适当性加以解释说明。若 NDA 批件持有人及时对争议

delisted by the NDA applicant, and such practice would reduce the enthusiasm of generic drug makers to challenge innovative pharmaceutical companies, thus would not be in line with the legislative purpose of the Act. This view was also accepted by FDA. After the verdict, even if the NDA applicant has delisted the relevant patent, the 180-day exclusivity for the ANDA applicant shall not be affected, and the patent shall be retained until the expiration date of the first 180-day exclusivity period. [44]

FDA regulations amended in 2016 provides an administrative remedy to correct the erroneous or improper patent information registered in the Orange Book. The specific regulations and procedures are as follows: anyone can challenge the accuracy and relevance of the patent information registered in the Orange Book. The challenger shall submit to FDA a certification stating the reasons for the challenge, and FDA in turn delivers the certification to the NDA holder. The NDA holder shall confirm the accuracy

[44] FDA：关于 Acarbose 180 天市场独占期的决定函（文件编号 No.FDA-2007 -N-04457-8），参件 http://www.fda.gov/OHRMS/DOCKETS/98fr/FDA-2007-N-0451-n.pdf。

[44] FDA: Decision Letter about Acarbose's 180-day Exclusivity (File No.: FDA-2007-N-04457-8), available at: http://www.fda.gov/OHRMS/DOCKETS/98fr/FDA-2007-N-0451-n.pdf

声明进行回应，且并未撤销或修订争议专利信息，FDA 将不会修改或变更已经登记在“桔皮书”中专利信息。后续仿制药上市申请应针对每一项登记在“桔皮书”中的专利（包括有争议的专利）分别作出适当声明。FDA 将在其网站上发布专利争议的相关信息。[45]

（四）美国“桔皮书”制度的实施效果，影响及评价等

由于药品是一种特殊的商品，出于药品安全性的考虑，在 Hatch-Waxman 法案出台之前，无论是创新药还是仿制药都必须经过严格的安全性、有效性审查，导致新上市的药品数量减少，仿制药需要与创新药经历几乎完全相同的审查机制，与创新药相

of the information in dispute within 30 days, or withdraw or revise the information. If the challenged patent information is related to method of use, the NDA approval holder shall also submit a narrative description of the scope of its patent protection, explaining the appropriateness of the existing or revised use code. If the NDA holder responds to the certification in a timely manner but does not withdraw or revise the patent information in dispute, FDA will not modify or revise the patent information registered in the Orange Book. The follow-up generic drug application shall provide an appropriate certification for each patent registered in the Orange Book (including the patent in dispute). FDA will publish information about patent disputes on its website. [45]

(IV) Implementation and Influence of the U.S. Orange Book System, and Comments on it

Drugs are a special commodity, so drug safety has always been of paramount importance. Before the passage of Hatch-Waxman Act, both innovative drugs and generic drugs had to go through strict safety and effectiveness review, resulting in a

[45] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(f) 条。

[45] Refer to Section 314.53(f) of Title 21, the Code of Federal Regulations (CFR).

比，也无法取得成本和价格上的优势。因此，无论是创新药还是仿制药产业的发展，都受到了极大的制约。桔皮书制度建立后，仿制药厂得以借助于桔皮书中所登记的专利新药的安全性、有效性及专利信息，免去新药上市申请所需进行的大规模临床试验的过程与成本，仅需提供生物等效性报告，简易的申请流程大幅降低了仿制药的试验成本，并加速了仿制药的上市。

根据Hatch-Waxman法案的规定，创新药厂向FDA提出NDA申请时，除了证明药品的安全性、有效性等与上市许可相关的资料外，还需要提交与该药品相关的专利信息，包括但不限于专利申请号、专利保护期限等。[46]FDA核准该药品上市许可，且该药品专利信息

decrease in the number of new drugs on the market. Generic drugs needed to go through the same review process as innovative drugs, so they had no cost and price advantages compared with the latter. Therefore, the development of both innovative drugs and generic drugs was greatly restricted. After the establishment of the Orange Book system, the generic drug makers can use the safety, effectiveness and patent information of the new patented drugs listed in the Orange Book, and avoid the process and cost of large-scale clinical trials required for approval of NDA (generic drug makers only need to provide the bioequivalence report). The abbreviated application process has greatly reduced the clinical trial cost of the generic drugs, and expedited the marketing of the generic drugs.

According to the Hatch-Waxman Act, when an innovative pharmaceutical company files an NDA to FDA, apart from information related to the marketing approval of the drug, such as safety, effectiveness, etc., it is also required to submit patent information related to the drug, including but not limited to patent application number and patent duration. [46] After FDA approves the drug's

[46] 《联邦法规汇编》（C.F.R.）第21篇第355(b)、355(c)、314.50(h)条。

[46] Refer to Section 355(b), 355(c), 314.50(h) of Title 21, the Code of Federal Regulations (CFR).

经 FDA 形式审查认为属于可登记的专利信息后，FDA 将核发该药品之上市许可，并将相关专利信息登载于桔皮书中。如有信息变更，则在 NDA 审查期间，可以随时修正，而在 NDA 上市批准后，则应及时提交补充。如果相关专利在提交上市申请后获得授权，则 NDA 申请人或专利权人应在授权公告后 30 日内向 FDA 补充提交相关专利信息，[47] 若逾期未能补充提交，一旦发生专利挑战，创新药企业无权主张 30 个月的批准等待期。[48]

marketing, and the patent information of the drug is found to be registrable by FDA formality examination, FDA will issue an authorization for the drug's marketing, and disseminate the relevant patent information by the Orange Book. If there is any change, the information can be amended at any time during the NDA review process. After the NDA has been approved for marketing, any information change shall be timely submitted as supplement. If the relevant patent is authorized after submission of the NDA, the NDA applicant or patentee shall submit the relevant patent information as supplement to FDA within 30 days of the authorization announcement, [47] failing which, the NDA applicant has no right to claim the 30-month stay of FDA approval of generic ANDA once a patent challenge occurs. [48]

事实上，除了登载专利信息，桔皮书制度最主要的作用是允许仿制药以不会对患者的安全性及有效性产生影响的方式提供创新药的替

In fact, in addition to the dissemination of patent information, the most important function of the orange book system is to allow generic drugs to provide substitutes to innovative drugs in a way that does not affect the drug safety and efficacy for patients,

[47] 《联邦法规汇编》（C.F.R.）第 21 篇第 314.53(c)(2)(ii) 条。

[48] FTC,Biovail Corporation (Administrative)，参见 http://www.ftc.gov/enforcement/cases-proceedings/011-0094/biovail-corporation。

[47] Refer to Section 314.53(c)(2)(ii) of Title 21, the Code of Federal Regulations (CFR).

[48] FTC, Biovail Corporation (Administrative), available at: http://www.ftc.gov/enforcement/cases-proceedings/011-0094/biovail-corporation.

代品，并为仿制药指明 FDA 认为哪些产品具有治疗等效性，但桔皮书对于 FDA 评估 NDA 和 ANDA 是否符合实质性批准要求没有作用，对认定专利的有效性、是否构成侵权及是否具有可实施性亦不产生作用。

and to identify the drug products FDA considers therapeutically equivalent. However, the Orange Book has no effect on FDA's judgment as to whether an NDA or ANDA meets the substantive approval requirements, nor on determination of patent validity, existence of infringement and enforceability of a patent.

但是，鉴于专利登记是专利链接制度的起点，也是 ANDA 申请时仿制药企业进行检索和提交声明的基础，更是专利挑战制度，即仿制药企业提交附带第 IV 段声明的 ANDA 申请而引发的专利侵权诉讼的诉讼争议的起点，就其实践效果看来，桔皮书制度的建立，有助于仿制药企业通过检索桔皮书避免专利侵权风险，而创新药企业则得以借此了解仿制药企业的商业规划，并在一定程度上提前制止仿制药企业的专利侵权行为。此外，由于所有经过 FDA 审批核准上市的药品均需将与药品相关的专利登载于桔皮书中，相关信息也可以作为创新药企业与仿制药企业之间专利侵权纠纷的有利参考。

However, the patent registration is the starting point of patent linkage system, also the basis for generic drug makers to search and submit certification during ANDA application, as well as the starting point of patent challenge system, i.e., the patent infringement dispute lawsuit caused by a generic drug maker submitting an ANDA application with a Paragraph IV Certification. From the perspective of practical effect, the establishment of the Orange Book system can help generic drug makers avoid the risk of patent infringement by searching the Orange Book, while NDA holders can learn about the business plans of generic drug makers, and to some extent, forestall any patent infringements of generic drug makers. In addition, as all the patents related to the drugs approved by FDA for marketing must be published in the Orange book, relevant information can also be used as a reference for settlement of patent infringement disputes between

（五）其他国家和地区的相关制度

1. 其他实施专利链接制度的国家

（1）加拿大

在加拿大，卫生部长持有“专利登记簿”。在新药申请提交之时，创新药企将相关专利发布于专利登记簿。[49] 符合法律要求的专利包含对经批准的药用成分、配方、剂型、或药用成分的使用的权利要求。[50] 发现相关专利的仿制药企必须决定其是否希望等待这些专利到期再为其药品取得批准， 或对这些专利提出挑战。 仿制药企必须在提交药品申请的同时，对于就其寻求批准的参照药或其使用的每项专利提交一份声明或主张。[51] 如果仿制药企提交一份关于专利无效、无资格被纳入专利登记簿或

innovative pharmaceutical companies and generic drug makers.

(V) Systems of Other Countries and Regions

1. Other Countries with Patent Linkage

(1) Canada

In Canada, the Minister of Health maintains the “Patent Register”. At the time of new drug submission, innovators seeks to have applicable patents listed on the Patent Register.[49] Eligible patents contain a claim to an approved medicinal ingredient, formulation, dosage form, or use of the medicinal ingredient. [50] A follow-on manufacturer that finds a relevant patent must decide whether it wishes to wait for those patents to expire before obtaining approval of its drug or instead challenge those patents. The follow-on manufacturer must submit with its drug application a statement or allegation as to each patent that claims the reference drug or a use of the

[49] 专利药物（合规通知）条例（PM(NOC) 条例），s.4。

[50] PM(NOC) 条例，s.4(1)-(3)。

[51] PM(NOC)，s.5(1), (2.1)。

[49] Patented Medicines (Notice of Compliance) Regulations (PM (NOC) Regulations), s.4.

[50] PM (NOC) Regulations, s.4 (1)-(3).

[51] PM (NOC) Regulations, s.5 (1), (2.1).

未侵权等的主张，则必须通知创新药企。[52] 如果创新药企在收到通知后 45 天内提起诉讼，则仿制药申请暂缓批准期为 24 个月。[53]

（2）新加坡

在新加坡，寻求上市批准的申请人必须声明，申请上市产品是否受限于任何相关专利。[54] 在大多数情况下，仿制药申请人必须向专利持有人发出通知，告知持有人，申请人认为专利无效或不会被拟上市仿制药侵权。如果专利持有人于收到该通知后 45 天内在法院对申请人提起侵权诉讼，则为期 30 个月的批准等待期生效。

（3）韩国

在韩国，创新厂商在从食品药品安全部

reference drug for which it seeks approval.[51] If the follow-on manufacturer files an allegation that the patent is invalid, was ineligible for inclusion in the Patent Register, or of noninfringement (among other things), then it must notify the innovator.[52] If the innovator brings suit within 45 days of receiving notice, the stay of approval of the generic application runs for 24 months.[53]

(2) Singapore

In Singapore, applicants seeking marketing approval must declare whether the product in question is subject to any relevant patent(s).[54] In most cases, a generic applicant must serve notice on the patent holder to inform the holder that the applicant believes the patent is invalid or will not be infringed by the proposed generic product. Where the patent holder commences infringement proceedings in court against the applicant within 45 days of service of such notice, a 30-month stay of approval goes into effect.

(3) South Korea

In South Korea, innovators file a patent listing

[52] PM(NOC)，s.5(3)(a)。
[53] PM(NOC)，s.7(1)(d)。
[54] 《药物法案》，s.12A。

[52] PM (NOC) Regulations, s.5(3)(a).
[53] PM (NOC) Regulations, s.7 (1)(d).
[54] Drugs Act, s.12A.

（MFDS）收到上市批准后30天内提交专利发布申请（PLA）。[55]MFDS审核专利信息，在《绿色清单》（可公开获取）上公布专利目录。发现相关专利的仿制药企必须决定其是否希望等待这些专利到期再为其药品取得批准，或对这些专利提出挑战。仿制药和生物类似药生产商必须于提交仿制药或生物类似药申请起20天内通知创新药企，告知创新药企可能的专利侵权情况。[56]如果创新厂商于收到通知后45天内提交诉讼，仿制药或生物类似药批准的暂缓批准（或销售）期为9个月。[57]

2. 未实施药品专利链接制度而有参比试剂或标准试剂的国家和地区

（1）澳大利亚

在澳大利亚，寻求将创新药企所提供数据用于将仿制药注册于《澳大利亚医疗用品登记簿》（ARTG）的仿

application (PLA) within 30 days of receipt of marketing approval from the Ministry of Food and Drug Safety (MFDS).[55] MFDS reviews patent information and publishes patent listings in the Green List, which is publicly available. A follow-on manufacturer that finds a relevant patent must decide whether it wishes to wait for those patents to expire before obtaining approval of its drug or instead challenge those patents. Generic drug and biosimilar manufacturers must inform the innovator within 20 days from the filing of a generic or biosimilar drug application, informing the innovator about possible patent infringement.[56] If the innovator brings suit within 45 days of receiving notice, the stay of approval (or sale) of the generic or biosimilar application runs for 9 months.[57]

2. Other Regions and Countries with RLDs or RS

(1) Australia

In Australia, a generic manufacturer seeking to rely on data provided by an innovator company for registration

[55] 《医药事务法案》，第50-3(2)条。
[56] 《医药事务法案》，第50-4(4)条。
[57] 《医药事务法案》，第50-6(1)条。

[55] Medical Affairs Act, Section 50-3(2).
[56] Medical Affairs Act, Section 50-4(4).
[57] Medical Affairs Act, Section 50-6(1).

制药生产商必须向医疗用品管理局（TGA）提供一份关于产品可能涉及的任何专利的证明。[58] 创新药企无需为其发布于 ARTG 的产品提供专利信息，因此仿制药申请人必须确定，澳大利亚专利登记薄上的哪些专利适用于相关创新药企，以便提交证明。证明必须声明：（1）申请人（基于诚实信用原则）以合理理由认为，其上市的医用产品不会且无意侵犯已就该医用产品获授专利的有效权利要求；或（2）专利已被授予相关产品，申请人在专利到期前拟上市医用产品，且申请人已通知专利权所有人。[59] 在仿制药被纳入 ARTG 之前需要上述证明，但通常是在申请过程的后期向 TGA 提供。[60] TGA 不核实这些证明的准确性，也不向创新药企提

of the generic's goods on the Australia Register of Therapeutic Goods (ARTG) must provide a certificate to the Therapeutic Good Administration (TGA) in relation to any patents that may exist for the goods. [58] Innovator manufacturers are not required to provide patent information for their product listed on the ARTG, and therefore generic applicants must determine which patents on the Australia Register of Patents apply to the relevant innovator drug in order to file the certificate. The certificate must state that: (1) the applicant, acting in good faith, believes on reasonable grounds that it is not marketing, and does not propose to market the therapeutic goods in a manner or circumstances that would infringe a valid claim of a patent that has been granted in relation to the therapeutic goods; or (2) a patent has been granted in relation to the goods, and that the applicant proposes to market the therapeutic goods before the end of the patent, and that the applicant has notified the patentee accordingly. [59] Such certificates are required before the generic product can be included on the ARTG but are typically provided to the TGA late in the application process. [60] The TGA does not verify

[58] 1989 年《医疗用品法案，第 26B 条。

[59] 1989 年《医疗用品法案》，第 26B(1)(a)-(b) 条。

[60] 澳大利亚政府，医药专利评审，《报告草案》，第 159 页（2013 年 4 月）。

[58] Medical Supplies Act, Section 26B.

[59] Medical Supplies Act, Section 26B (1) (a)-(b).

[60] Australian Government, pharmaceutical patent review, Draft Report, p159 (April 2013).

供这些证明。[61] 由于许多仿制药公司宁愿提交第一种证明，创新药厂收到关于另一家公司有意进入市场的首次通知往往是另一家公司的药品在 ARTG 发布之时，TGA 在其网站上发布可搜索的新 ARTG 发布项目更新，但并不主动通知专利权所有人有关仿制药厂商申请上市的情况。[62]

（2）欧盟

尽管欧盟没有专利链接制度，但创新厂商可在仿制药上市之前基于可能或预期的侵权行为启动专利诉讼。此外，大多数欧盟成员国允许创新厂商有机会寻求禁令救济，以防止可能侵权的产品在专利争议解决前上市。例如，葡萄牙医药监管局须在其网站上发布所有仿制药上

the accuracy of the certificates and does not provide them to the innovator. [61] Because many generic companies prefer to file the first kind of certificate, often the first notification received by an innovator pharmaceutical company of another company's intention to enter the market is when the other company's drug is listed on the ARTG. The TGA publishes searchable updates of new ARTG listings on its website, but does not actively notify patentees of generic entrants.[62]

(2) European Union

Although there is no patent linkage in the EU, innovators may initiate patent litigation before a generic product launches, based on a threatened or contemplated act of infringement. In addition, most EU Member States provide the opportunity for innovators to seek injunctive relief to prevent launch of a potentially infringing product prior to resolution of a patent dispute. For example, in Portugal, the Portuguese Medicine Regulatory Authority must publish on its website all marketing authorization applications or registrations for generic medicines and their respective reference medicines. An

[61] 同上。

[62] 澳大利亚政府，医药专利评审，《报告草案》，第 160-161 页（2013 年 4 月）。

[61] Ditto.

[62] Australian Government, pharmaceutical patent review, Draft Report, pp.160-161 (April 2013).

市批准申请或注册及其相关参照药。之后，利益相关方可在 30 天内基于其财产权利向一个仲裁法庭提交异议。[63] 之后，仿制药申请人可在 30 天内答复，否则将导致仿制药在创新厂商知识产权仍然有效期间被禁止上市。

（3）日本

在日本，创新药厂必须提交涉及产品的专利清单，厚生劳动省（MHLW）在其审核仿制药申请时会参考该清单。每个仿制药申请人必须提交一份声明，说明所申请药品的活性成分是否在原料药专利的涵盖范围内，如是，则提供期限、无效或同意的证据。MHLW 不会批准包含受原料药专利保护的活性成分的仿制药，且当创新药品有使用方

interested party then has 30 days to file an opposition with an arbitration court based on its property rights. [63] The generic applicant then has 30 days to respond, and failure to do so will result in a prohibition of the marketing of the generic medicine while the innovator's property rights are still in force.

(3) Japan

In Japan, an innovator must submit a list of patents covering the product, to which the Ministry of Health, Labor and Welfare (MHLW) refers when it reviews a follow-on application. Each follow-on applicant must submit a declaration stating whether the active ingredient in the drug application is covered by a substance patent and, if so, provide evidence of expiry, invalidity, or consent. The MHLW will not approve generic products containing active ingredients that are protected by substance patents, and when there are method of use patents for the innovative product, the MHLW will approve generic products only with respect to those indications that will not infringe on the use patents. [64] An innovator may bring an infringement suit in the court of law, including after approval of the generic. An innovator can

[63] 第 62/2011 号法律。

[63] No.62/2011 Law.

[64] Refer to No.065001 Notice (HPB) of Ministry of Economic Affairs and No. 0605014 document (PFSB) of the Evaluation and Approval Department (June 5, 2009)

法专利时，MHLW 将仅就不会侵犯使用方法专利的适应症批准仿制药。[64] 创新厂商可在法院提起侵权诉讼，包括在仿制药获批后。创新厂商可针对仿制药销售申请停止和禁止令。

（4）墨西哥

在墨西哥，墨西哥工业产权局（IMPI）发布《特殊药剂公报》（SGM）其内容为一份按活性成分排列的已授予专利清单。[65] 专利不与具体注册药品挂钩。要在 SGM 中发布已授予专利，需向 IMPI 提交正式申请，或者可请求执行一个诚实信用的程序。专利持有人没有义务在 SGM 中发布与某种药品相关的所有专利。在为药品申请上市许可时，申请人须提供一份经宣誓的签署声明，表明产品未侵犯专利，因为申请人是专利持有人或经授权的被许可人，或申请人不了解有任何涵盖产品的专利。[66]

seek a cease and desist order against a generic's distribution.

(4) Mexico

In Mexico, the Mexican Institute of Industrial Property (IMPI) issues a "Special Gazette for Medicaments" (SGM) that consists of a list of granted patents arranged by active ingredient.[65] Patents are not linked to a specific registered pharmaceutical product. To list a granted patent in the SGM, a formal petition can be submitted to IMPI or a bona fide proceeding can be requested. There is no obligation for patent holders to list in the SGM all relevant patents related to a pharmaceutical product. When seeking marketing authorization of a pharmaceutical product, an applicant must file a signed statement under oath stating that patents are not infringed by the product, either because the applicant is the patent holder or an authorized licensee, or because the applicant is not aware of any patents covering the product. [66]

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[64] 参见经济事务部第 065001 号通知（HPB）以及评估和许可部第 0605014 号（PFSB）（2009 年 6 月 5 日）。

[65] 《工业产权法律条例》第 47 条。

[66] 《工业产权法律条例》第 167 条。

[65] Industrial Property Laws and Regulations, Section 47.

[66] Industrial Property Laws and Regulations, Section 167.

2. 《中国上市药品目录集》及其评述

THE APPROVED DRUG CATALOG OF CHINA AND COMMENTS ON IT

（一）《中国上市药品目录集》的出台背景[67]

1. 出台背景

改革开放40年来，通过不断完善机制体制，持续推进改革，中国医药产业发展迅速，逐步解决了百姓缺医少药的问题。但是，随着物质生活水平不断提高，百姓对高质量药品需求无法得到有效满足的问题日益凸显。由于过去科学认知水平不高，开放程度不够，改革不到位，国外的创新药品不能及时进

(I) Background of the Approved Drug Catalog of China[67]

1. Background

Since the beginning of reform and opening-up 40 years ago, China's pharmaceutical industry has developed rapidly and gradually tackled the problem of shortage of doctors and medicines by constantly improving the system and unswervingly pushing forward the reform. However, with people's living standards increasing, it has become more and more evident that their demand for high-quality drugs

[67] 参见《关注丨权威解答<中国上市药品目录集>》，载 http://www.sohu.com/a/223829514_464400。

[67] Refer to Concerns | Authoritative Answers to Questions about "the Approved Drug Catalog of China, available at: http://www.sohu.com/ a/223829514_464400.

入中国市场。公开数据显示，2001 年到 2016 年间，发达国家批准上市的创新药共计433种，而在中国上市的只有100余种，仅占30%，典型的创新药在中国上市的时间平均要比欧美晚 5-7 年。缺乏指定的创新药品，使中国仿制药长期低水平重复建设，难以做到仿制药与创新药在疗效和质量上的一致，无法实现仿制药对创新药的真正替代。

十九大作出了中国特色社会主义进入新时代，社会主要矛盾已经转化为人民日益增长的美好生活需要和不平衡不充分的发展之间的矛盾的重大判断。满足百姓的用药需求，驱动医药产业的创新发展，都要求从制度上进行不断完善，鼓励创新，推动改革，开展仿制药质量和疗效一致性评价工作，制定上市药品目录集，为仿制药指定参比制剂和标准制剂，不断提高

cannot be effectively met. In the past, due to low level of scientific popularization, opening-up being at early stage, and absence of system reform, foreign innovative drugs could not enter the Chinese market in time. Public data shows that between 2001 and 2016, 433 kinds of innovative drugs were approved for marketing in developed countries, while China approved only more than 100, roughly 30% of that figure. On average, a typical innovative drug was marketed in China 5-7 years later than that in Europe and America. Due to the lack of designated innovative drugs, China's generic drugs underwent low-level redundant development for a long period of time, and often failed to achieve the same efficacy and quality with innovative drugs, thus cannot be substituted for innovative drugs in real sense.

The 19th National Congress of the Communist Party of China made a major judgment that the socialism with Chinese characteristics has entered a new era, and the principal challenge to socialism has shifted to the gap between the ever-growing needs for a better life and the unbalanced and inadequate development. To meet the demand for drugs and promote the innovative development of the pharmaceutical industry, Chinese government needs to further improve the system, encourage innovation, promote reform, carry out the quality and therapeutic

仿制药质量和疗效。

2017 年 10 月 8 日的两办《意见》明确提出建立上市药品目录集，顺应了产业发展和人民群众对高质量药品的需求和期待，为新药创新和仿制药研发提供了更好的制度保障。

2. 制定过程

《中国上市药品目录集》（以下简称《目录集》）是随着药品审评审批制度改革的深入而提上日程的，相关工作由 CFDA 药审中心负责。2017 年 8 月 18 日，药审中心成立了由不同专业的资深审评员及信息技术人员等组成的目录集起草小组，初步形成了目录集框架和示例品种，并于 2017 年 9 月 4 日发布了《关于公开征求 < 中国上市药品目录集 > 框架意见的通知》，向社会进行了第一次意见征集，这标志着中国版桔皮书制度的建设拉

equivalence evaluation of generic drugs, formulate a catalogue of drugs on the market, designate RLD and RS for generic drugs, and constantly improve the quality and efficacy of generic drugs.

The Opinions of the Two Offices on October 8, 2017 clearly proposed the formulation of a catalog of drugs on the market, for the purpose of supporting development of the industry, meeting the needs and expectation for high-quality drugs, and providing a better institutional guarantee for drug innovation and R&D of generic drugs.

2. Formulation process

The Approved Drug Catalog of China (hereinafter referred to as the Catalog) was put on the agenda with the deepening of the reform of drug review and approval system. The Center for Drug Evaluation (CDE) under China Food and Drug Administration (CFDA) is the institution responsible for the work related to the Catalog. On August 18, 2017, CDE set up a catalogue drafting group composed of senior reviewers and information technology personnel from different fields, worked out a framework for the Catalog with some typical drugs, and issued the Notice on Solicitation of Public Opinions on Framework of the Approved Drug Catalog of China on

开了序幕。

考虑到各界对第一批品种的关注度较高，因此，针对第一批拟收录品种，药审中心于2017年11月28日发布了《中国上市化学药品遴选第一批药品目录（征求意见稿）》，再次向社会征求意见，主要目的为核实专利等方面的信息，并在此基础上经反复讨论，进一步完善了目录集，这也标志着中国版桔皮书制度建设已经进入实践探索层面。目录集原计划2017年10月末发布纸质版，后考虑到纸质版的诸多限制，最终形成最终网络版。

2017年12月28日，CFDA发布了关于《中国上市药品目录集》的公告（2017年第172号），指出：为维护公众用药权益，提高药品质量，降低用药负担，鼓励药物研发创新，CFDA组织制定了《中国上市药品

September 4, 2017, which was the first opinion solicitation from the public, and marked the beginning of the construction of the Chinese version Orange Book system.

Considering the high levels of interest of all walks of life in the first batch of drugs to be included in the Catalog, CDE released the Catalog of First Batch of Chemical Drugs On the Chinese Market (Draft for Solicitation of Opinions) on November 28, 2017, to solicit opinions again from the public. Its main purpose was to verify the information about patents, among others, and further improve the Catalog after thorough discussions on the collected opinions. This document also indicated that the Chinese version Orange Book system has entered the practical stage. The paper version Catalog was supposed to be issued at the end of October 2017 according to the original plan, however, after many limitations of the paper version were considered, the final Web version took shape.

On December 28, 2017, CFDA issued an announcement on the Approved Drug Catalog of China (No. 172 in 2017), pointing out that the Catalog was formulated in view of protecting rights and interests of the public in drug use, improving the quality of drugs, reducing the cost of drug use, encouraging R&D and innovation of drugs. The Catalog is the carrier

目录集》。《中国上市药品目录集》是 CFDA 发布批准上市药品信息的载体，收录药品的范围包括：基于完整规范的安全性和有效性的研究数据获得批准的创新药、改良型新药及进口创新药品；按化学药品新注册分类批准的仿制药；通过质量和疗效一致性评价的药品；以及经 CFDA 评估确定具有安全性和有效性的其他药品。收录药品的基本信息包括：活性成分、活性成分（英文）、药品名称、药品名称（英文）、商品名、商品名（英文）、剂型、给药途径、规格、参比制剂、标准制剂、治疗等效性评价代码、解剖学治疗学及化学分类系统代码（ATC 代码）、批准文号 / 注册证号、上市许可持有人、生产厂商、首次批准日期、上市销售状态、收录类别和专利等。《中国上市药品目录集》中将指定仿制药的参比制剂和标准制剂，标示可

for CFDA to disseminate the information of approved drugs, including: innovative drugs, modified new drugs and imported innovative drugs approved based on complete and standardized research data of safety and effectiveness; generic drugs approved based on the new classification system for registration of chemical drugs; drugs that have passed quality and therapeutic equivalence evaluation; and other drugs CFDA evaluated and considered safe and effective. The basic information about the listed drugs includes: active ingredients (in both Chinese and English), drug name (in both Chinese and English), brand name (in both Chinese and English), dosage form, route, specification, RLD, RS, Therapeutic Equivalence Code (TE code), Anatomical Therapeutic Chemical classification system code (ATC code), approval number/registration certificate number, marketing authorization holder, manufacturer, first approval date, marketing status, category of drugs listed and patent, etc. The Catalog will designate RLD and RS for generic drugs, and specify generic drugs that can be substituted for innovative drugs, so that the general public and professionals in the pharmaceutical industry and the medical community can easily learn and search them. The Catalog was published in the form of Web version (database) on CFDA government website, and was linked with other databases,

以替代创新药品的具体仿制药品种等，供制药行业和医学界人员及社会公众了解和查询。《中国上市药品目录集》在 CFDA 政府网站以网络版（数据库）形式发布，并与药品说明书、标签、审评审批信息（含审评报告、检验报告、核查报告和批件等应公开的其他信息）等数据库链接，便于公众查询。目前发布的《中国上市药品目录集》收录了 131 个品种，203 个品种规格，其中包括通过仿制药质量和疗效一致性评价的 13 个品种，17 个品种规格。CFDA 将对新批准上市的新注册分类药品以及通过仿制药质量和疗效一致性评价的药品直接纳入《中国上市药品目录集》，实时更新。

（二）《中国上市药品目录集》的主要内容

《目录集》包括前言、使用指南、药品目录、附录和索引五个部分。网络版集成了专利信息、数据保护、市场独占期、药品说明书和

such as package inserts, labels, review and approval information (including review report, inspection report, verification report, approval document and other information that should be disclosed), so as to facilitate public inquiry. At present, 131 drugs and 203 drug specifications are included in the Approved Drug Catalog of China, including 13 generic drugs and 17 generic drug specifications which have passed the quality and therapeutic equivalence evaluation. CFDA will directly include the newly approved drugs by new classification of registration and the generic drugs which have passed the quality and therapeutic equivalence evaluation in the Approved Drug Catalog of China and keep updating.

(II) Main Content of the Approved Drug Catalog of China

The Catalog is composed of five parts: Preface, User Guide, Drug List, Appendix and Indexes. The Web version of the Catalog integrates a wide range of databases, including patent information, data protection, market exclusivity, package insert and review/verification/

审评 / 核查 / 检验报告等数据库。收录范围包括：基于完整规范的安全性和有效性的研究数据获得批准的创新药、改良型新药及进口创新药品；按化学药品新注册分类批准的仿制药；通过质量和疗效一致性评价的药品；经食药监总局评估确定具有安全性和有效性的其他药品。

在考量首批收录的品种时，主要根据目录集收录范围，初步筛选了 2400 余个品规，通过确认创新药是否为临床重要治疗领域产品、创新药是否符合参比制剂及标准制剂的相关要求、仿制药是否符合现行与原研一致的技术要求等，剔除了不符合要求的品种。对拟收录品种全面收集信息，核对专利、说明书及上市销售状态等。同时，对存疑品种查询相关审评报告、上市后安全性报告，明确其临床价值和临床安全有效性。具体来说，《中

examination report. The listed drugs include innovative drugs, modified new drugs and imported innovative drugs approved based on complete and standardized research data of safety and effectiveness; generic drugs approved based on the new classification system for registration of chemical drugs; drugs that have passed quality and therapeutic equivalence evaluation; and other drugs CFDA evaluated and considered safe and effective.

When the first batch of drugs is considered for inclusion in the Catalog, first, more than 2400 drug products were roughly screened from all the drugs covered. After confirming whether the innovative drugs are in the clinically important fields, whether they meet the requirements related to RLD and RS, and whether the generic drugs meet the technical requirements for therapeutic equivalence between the RLD and generic drugs, the drugs that did not meet the requirements were eliminated. All kinds of information about the drugs to be included were collected, such as the patents, package inserts and marketing status. At the same time, regarding the drugs under question, relevant review reports and post-marketing safety reports were checked to confirm their clinical value and clinical safety and effectiveness. Specifically, there are six categories of drugs included in the

国上市药品目录集》收录药品的范围包括六类，分别是：（1）创新药；（2）改良型新药；（3）进口创新药品；（4）按化学药品新注册分类批准的仿制药；（5）通过质量和疗效一致性评价的药品；（6）其他药品。最终确认了首批收录 131 个品种，203 个品规。

在《目录集》发布时，共收载了按照化学药品原注册分类批准的 1.1 类国产创新药 9 个品种，11 个品规。这些品种都是基于完整规范的安全性和有效性的研究数据获得批准的创新药。这些创新药品种涵盖了抗肿瘤、抗感染、抗病毒、质子泵抑制剂等领域，为具有世界领先水平的创新药品。未来，《目录集》还将收载中国原创的生物制品。而收载入《目录集》的仿制药，均为按照化学药品新注册分类批准以及通过一致性评价的药品，涵盖心血管系统、精神

Catalog: (1) innovative drugs; (2) modified new drugs; (3) imported innovative drugs; (4) generic drugs approved based on the new classification system for registration of chemical drugs; (5) generic drugs that have passed quality evaluation and therapeutic equivalence evaluation; (6) other drugs. Finally, inclusion of the first batch of 131 drugs and 203 drug specifications was confirmed.

When the Catalog was published, a total of 9 domestic Class 1.1 innovative drugs (11 drug specifications) approved based on the previous classification system for registration of chemical drugs were also included. These are the innovative drugs approved based on complete and standardized research data of safety and effectiveness. These innovative drugs are at leading level in the world, and covers a wide range of fields, such as anti-tumor, anti-infection, antivirus, proton pump inhibitor, etc. In future, the Catalog will also include China's original biological products. The generic drugs to be included in the Catalog are those approved based on the new classification system for registration of chemical drugs and those that have passed quality and therapeutic equivalence evaluation. Covering cardiovascular system, psychiatric field, anti-infection and anti-tumor fields, these generic drugs are in great and urgent demand in clinical use. The first

类、抗感染类和抗肿瘤领域，均为临床上使用量大、具有迫切需求的药品。首批收载入《目录集》的仿制药均按照最新的技术指导要求进行技术审评，经过了严格的体内生物等效性研究或相关的一致性研究，均可保证仿制药的质量和疗效与原研品一致，可以实现对进口创新药的临床替代。通过将这些仿制药品收载于《目录集》，医生和患者可以选择仿制药替代创新药品，降低用药负担。相应的，通过在医保招标采购中的优惠政策，将大幅降低用药成本，间接地拉低创新药价格，使患者和国家受益。未来，通过《目录集》的治疗等效性代码，医生和患者可以根据治疗等效性评价代码决定是否可以在临床上相互替代使用，包括仿制药对创新药的替代。

根据 CFDA 网站显示，登载于《中国上市药品目录集》的相关信息如下：

batch of generic drugs included in the Catalog have all undergone technical review according to latest technical guidance and requirements, and have passed rigorous in-vivo bioequivalence evaluation, which ensures that they provide the same quality and therapeutic benefit as the RLDs, and serve as substitutes for the imported innovative drugs in clinical use. By including these generic drugs in the Catalog, doctors and patients can select generic drugs as substitutes for innovative drugs to lower the cost of drugs. Accordingly, the preferential policy in the medical insurance bidding and procurement will also significantly reduce the cost of drug use, and indirectly lower the price of innovative drugs, so that both patients and the government can benefit from it. In future, by the TE codes in the Catalog, doctors and patients can decide whether two drugs are clinically interchangeable, and whether a generic drug can be substituted for an innovative drug.

As shown in the website of CFDA, the information related to the listed drugs is as follows:

《中国上市药品目录集》示例 [68]

An example of the content of Approved Drug Catalog of China[68]

活性成份	对于复方制剂，各活性成分以分号隔开
Active Ingredient	For compound drug products, use semicolons to separate the active ingredients
药品名称	以批准上市的证明性文件为准
Drug Name	As stated in the approval certificates
商品名	如有
Brand Name	If available
剂型 Dosage Form	以批准上市的证明性文件为准 As stated in the approval certificates
给药途径 Route	参照附录 Refer to the Appendix
规格 Specifications	以批准上市的证明性文件为准 As stated in the approval certificates
参比制剂 RLD	是 / 空 Yes / N/A
标准制剂 RS	是 / 空 Yes / N/A
治疗等效性评价代码 TE Code	AX/AB/B
ATC 代码 ATC Code	
批准文号 / 注册证号 Approval No. / Registration Certificate No.	国产药品采用批准文号；进口药品采用注册证号 Approval No. is for domestic drugs; Registration Certificate No. is for imported drugs
首次批准日期 Date of First Approval	1. 基于完整规范的安全性和有效性的研究数据获得批准的日期； 1. The date when the drug is approved based on complete and standardized research data of safety and effectiveness; 2. 通过或视为通过质量和疗效一致性评价的首次批准日期； 2. The first approval date when the drug passes the quality and therapeutic equivalence evaluation.
上市许可持有人 Applicant Holder	以批准上市的证明性文件为准 As stated in the approval certificates
生产厂商 Manufacturer	以批准上市的证明性文件为准 As stated in the approval certificates

[68] 来源：《中国上市药品目录集》- 使用指南，http://202.96.26.102/about/guide。

[68] Source: the Approved Drug Catalog of China - User Guide, http://202.96.26.102/about/guide.

上市销售状态 Marketing Status	上市销售中 / 暂停销售 / 撤销上市许可（因非安全有效性原因撤市） Being sold and marketed/sales and marketing suspended/withdrawn from the market (for reasons other than safety and effectiveness)
收录类别 Types of Listed Drugs	1. 创新药 1. Innovative drug 2. 改良型新药 2. Modified new drugs 3. 进口创新药品 3. Imported innovative drugs 4. 按化学药品新注册分类批准的仿制药 4. Generic drugs approved based on the new classification system for registration of chemical drugs 5. 通过质量和疗效一致性评价的药品 5. Drugs that have passed quality and therapeutic equivalence evaluation 6. 其他药品 6. Other drugs
链接 – 专利信息库、数据保护信息库、市场独占期信息库 Link - Patent information database, data protection database, market exclusivity database	
链接 – 说明书信息库 Link - User direction database	
链接 – 审评、核查、检验信息库 Link - Review, verification, examination database	

专利信息的具体形式
The forms of patent information

专利信息 Patent Information			
批准文号 / 注册证号 Approval No. / Registration Certificate No	**专利号** Patent No.	**专利到期日** Patent Expiration	**专利类型** Patent Type

专利类型：包括化合物专利、产品专利（包括制剂专利和组合物专利）、用途专利（保护药品适应症用途）三类。其中化合物专利不包括晶型专利。

目录集中收载公示的专利，均指在中国国内已获授权的专利，不包括国外专利和专利到期的专利等。

此外，《目录集》还规定了药品监管机构的责任，要求保证目录集内容准确和持续更新，保障数据库稳定运行，实现信息的及时公开。《目录集》中新品种的纳入和已有品种的更新，是保持目录集数据准确、清晰和完整的关键。对于按照新化学药品分类批准上市或通过仿制药质量和疗效一致性评价的药品将直接收录入目录集；对按照原注册分类批准的进口创新药品则在完善专利信息后结合申请人的意见，经评

Patent types: drug substance patent, drug product patent (including formulation patent and composition patent), method-of-use patent (to protect indication and use of the drug). Among them, the drug substance patent does not include crystal form.

The patents published in the Catalog are the patents authorized within China, and do not include foreign patents and expired patents.

In addition, the Catalog also stipulates the responsibilities of drug regulatory agency, including accuracy and timely updating of the content of the Catalog, stable operation of the database, and timely disclosure of information. The inclusion of new drugs and the updating of existing drugs in the Catalog are the key to keep the data accurate, clear and complete. The drugs approved based on the new classification system for registration of chemical drugs and the drugs that have passed quality and therapeutic equivalence evaluation will be directly included in the Catalog; the imported innovative drugs approved based on the previous classification system for registration of chemical drugs will be included after all the patent information has been collected and the applicant's opinions evaluated and confirmed.

At present, the Catalog has included 214

估确认后收录入目录集。

目前，《目录集》已收录了 214 个品种，361 个品种规格，其中仍是以进口原研药最多，将近七成，处于上市销售中的有 305 品规，暂停销售的有 41 品规，还有部分品种还未进行销售。[69]

（三）实施情况及其效果

《目录集》的发布对于中国创新药和仿制药产业的发展都具有重要的现实意义。中国医药产业的发展，一方面需要鼓励创新，这就要求在制度上保障新药创新环境，对创新药研发做好专利保护，以保护专利权人权益并使创新药研发企业获得利益，达到尊重创新药的知识产权的目的。此外，专利权益不仅应在专利领域获得保护，而且也应该在药品监管各环节，提供多种途径使仿制药企业了解被仿制药品的专利信息。对药品监管部门而言，批准上市时将专利权属等在

drugs and 361 drug specifications. Among them, the imported innovative drugs account for 70%, 305 drug specifications are being marketed and sold, 41 drug specifications are suspended from marketing, and some drugs have not yet been put on the market. [69]

(III) Implementation of the Catalog and the Results of it

The publication of the Catalog is of great practical significance for the development of pharmaceutical industry (for both innovative and generic drugs) in China. To promote the development of the industry, on the one hand, innovation needs to be encouraged, which means the drug innovation environment must be protected at the institutional level; intellectual property rights must be protected, including patents of innovative drugs, the rights and interests of patentees and benefits for innovative drug companies.

[69] “《上市药品目录集》最新名单梳理”，载 http://www.sohu.com/a/246142411_100181138。

[69] Latest Version of the Approved Drug Catalog of China, available at http://www.sohu.com/ a/246142411_100181138.

《目录集》中进行公开和明确，给予创新药参比制剂及标准制剂地位，既能表明该产品是相关治疗领域的创新者，也是对创新药研发及生产者的一种支持和保护。

医药产业发展的另一方面是提高仿制药质量，这就要求严格仿制药标准并提高仿制药质量要求。对于仿制药而言，明确参比制剂和标准制剂以树立仿制药的标杆、明确仿制药标准是仿制的基础和关键。通过建立专利链接制度，使仿制药研发企业快速、高标准、专业化的将高质量的仿制药快速上市，满足公众用药的可及性、降低医疗费用，具有重大意义。

《目录集》的重要作用之一是指定参比制剂和标准制剂，并通过标识上市销售状态明确其可及性。通过与申请人的沟通交流机制及规定标准制剂上市许可持

In addition, the rights and interests for patentees should be protected not only by the patents themselves, but also in all aspects of drug regulation, to provide a variety of ways for generic drug makers to acquire patent information of reference drugs. When approving a drug, the drug regulatory agency shall disclose and clarify the patent ownership in the Catalog, and designate the innovative drugs as RLD and RS, which not only acknowledge the innovators in certain therapeutic fields, but also renders support and protection to the innovative drug makers and manufacturers.

On the other hand, the quality of generic drugs also needs to be improved, which requires rigorous reference standard and quality standard for them. The key for a successful generic version is for the regulatory agency to designate an RLD or RS as the standard to which new generic versions are compared. With the establishment of patent linkage system, generic drug makers can launch their high-quality/standard generic drugs in a quick and professional manner, so as to improve accessibility to the drugs and reduce medical costs. Establishing such as system would be an important milestone for Chinese pharmaceutical industry.

有人的责任，及时获得标准制剂的可及性信息，当指定的标准制剂可获得性存在问题，会及时根据市场上已收录入《目录集》仿制药的市场销售情况、质量和标准，重新指定标准制剂。

目前，《目录集》的主要作用着眼于“一致性评价”。《目录集》既是一致性评价的一项成果，又是一致性评价中仿制药研发的标准和起点。通过一致性评价的品种将直接载入《目录集》，以替代进口创新药，并进一步推动一致性评价工作。《目录集》可标识参比制剂和标准制剂，通过一致性评价的品种，如参比制剂未获得进口或可及性存在问题，可以标识为标准制剂，以保证一致性评价工作的顺利推进。

One of the important roles of the Catalog is to designate RLD and RS, and to clarify their accessibility by marking their marketing status. With a communication and exchange mechanism with the applicant, responsibilities assigned to the NDA holders, and timely acquisition of accessibility information about the RLD and RS, in case of any problem in the availability of the designated RLD and RS, they will be re-designated in time according to the marketing status, quality and standards of the generic drugs in the Catalog.

Currently, the main role of the Catalog is “quality and therapeutic equivalence evaluation”. The Catalog not only is a fruit of the equivalence evaluation, but also serves as the standard and a starting point for the R&D of generic drugs in such evaluation. The drugs that have passed the evaluation will be directly included in the Catalog, as substitutes for imported innovative drugs, which in turn pushes the equivalence evaluation work forward. The Catalog can designate both RLD and RS. If RLDs have not been imported or there is an availability problem, the drugs that have passed the equivalence evaluation can be marked as RS, so as to ensure smooth progress of the equivalence evaluation work.

3. 《中国上市药品目录集》与美国“桔皮书”之异同

SIMILARITIES AND DIFFERENCES BETWEEN THE APPROVED DRUG CATALOG OF CHINA AND THE ORANGE BOOK OF THE UNITED STATES

美国桔皮书制度历经近四十年的建设，随着医药产业的持续发展不断对此制度提出新的需求，逐步扩展完善。其功能定位随着制度的不断完善，呈现逐渐扩大，逐渐清晰的过程。

有人将将美国桔皮书制度的发展分为三个阶段，即起步阶段、扩

The Orange Book system in the United States has been built for nearly 40 years. With constant development of the pharmaceutical industry, ever-emerging demands have prompted expansion and improvement on the Orange Book system. With the system continuously improved, its functions have been gradually expanded and coming into focus.

Some people divide the development history of the Orange Book system into three stages,

展阶段和完善阶段，其每个阶段桔皮书建设的功能导向都较为明确。[70]

（1）起步阶段

从美国桔皮书制度的建立的历史不难看出，桔皮书制度的建立旨在降低药品费用，控制医疗开支，其建立的初衷是为实现仿制药在临床使用环节的替代作用，降低医药费用开支水平，提高民众用药的可及性。在其中列入符合治疗等效性要求的仿制药以实现其“临床用药替代”的功能导向。

（2）扩展阶段

1984 年 Hatch-Waxman 法案颁布，确立药品专利链接制度、药品数据保护制度、专利期补偿制度、Bolar 例外等一系列规则，以期实现创仿平衡，以

namely, early stage, expansion stage and mature stage. At each stage, the functions and orientation of the Orange Book are relatively clear.[70]

(1) Early Stage

From the establishment of the Orange Book system, it is not difficult to see that its aim was to reduce drug costs and control medical expenses. It was originally intended to realize the substitution of generic drugs in the clinical use, reduce medical expenses and improve the public accessibility of drugs. Inclusion of generic drugs which have met therapeutic equivalence requirements is a function of the Orange Book to realize “drug substitution in clinical use”.

(2) Expansion Stage

Hatch-Waxman Act, which was enacted in 1984, established a series of rules and regulations, including pharmaceutical patent linkage system, drug data protection system, compensation system for the duration of drug patent and Bolar exception, in order to strike a balance between the innovation incentives for pharmaceutical companies

[70] 参见：中国药科大学丁锦希教授研究团队：《中国药品桔皮书制度建设研究结题报告》，第 88-92 页。

[70] Refer to: Professor Ding Jinxi's team from China Pharmaceutical University: Concluding Report on the Study of Construction of Chinese Version Orange Book System. pp. 88-92.

及社会公众与医药企业的利益平衡。为了适应Hatch-Waxman法案提出的新要求，美国桔皮书进行了有史以来最大规模的“扩容”。法案生效后出版的桔皮书版本新设立附录项，收载公示药品的专利信息和数据保护信息（独占权信息），以服务于数据保护和专利链接制度。美国医药产业创新研发投入不断提高，新药产出能力也逐渐增强，从而对创新药权益的保护提出了新的需求。为与此阶段的发展与需求相适应，桔皮书制度设计时加入专利信息和数据保护信息，实现其“创新激励导向”的功能定位。

（3）完善阶段

随着实践的发展，面对药品链接制度实施过程中出现的一系列问题，美国通过司法判例及FDA的行政决定不断完善桔皮书制度。

and the greater consumer access provided by low-cost generic drugs. To meet the requirements raised by the Hatch-Waxman Act, the Orange Book scope was expanded in the largest scale ever. The Orange Book version published after the passage of the Act had a new appendix item to include the patent information and data protection information (exclusivity) of the listed drugs, for the purpose of the data protection and patent linkage system. With the increasing investment in innovative R&D of the pharmaceutical industry in the United States, and the increasing output of new drugs, new demands were raised for the protection of the rights and interests of innovative drugs. To accommodate the development and demands at this stage, patent information and data protection information were added in the design of Orange Book system, for the materialization of another function of the Orange Book, “incentive for innovation”.

(3) Mature Stage

In the face of a series of problems in the implementation of the pharmaceutical linkage system, the United States has constantly improved the Orange Book system through judicial precedents and FDA administrative decisions. At the beginning of 2017, in order to solve the problem of poor

2017 年初，为解决部分参比制剂药品因撤市、生产供应短缺等造成药品可及性较差，致使仿制药开发不便的问题，FDA 在现有参比制剂（Reference Listed Drug, RLD）的基础上引入了新的“对照标准制剂（Reference Standard, RS）”概念，并对桔皮书相应内容及公示界面进行了全新调整，实现其“仿制研发引导”的功能导向。

截止目前，FDA 已公布最新的第 39 版桔皮书，收载截止至 2018 年 12 月 31 日批准上市的药品，并已建成了形式多样、及时精准的公示体系。在美国医药产业相关政策及制度逐步发展与完善之时，桔皮书所行使的功能愈加全面化且精细化。

而中国版的桔皮书，即《中国上市药品目录集》自发布至今尚不满两年。相较之于美国的

accessibility of some RLDs due to market withdrawal and shortage of production and supply, which hindered the R&D of generic drugs, FDA introduced a new concept of “Reference Standard (RS)” based on the existing Reference Listed Drug (RLD), and made comprehensive adjustments on the content and bulletin webpage of the Orange Book. This is another function of the Orange Book, “providing guidance to R&D of generic drugs”.

Up to now, the FDA has published the latest 39th Edition of Orange Book, which includes the drugs approved for marketing as of December 31, 2018, and has established a timely and accurate information publicity system in diversified forms. With the gradual development and improvement of policies and systems related to the pharmaceutical industry in the United States, the functions of the Orange Book have become increasingly inclusive and accurate.

However, as the Chinese version Orange Book, the Approved Drug Catalog of China, has been published for less than two years. Compared with the Orange Book of the United States, the Catalog is still in its infancy, or initial period of the early stage. It goes without saying that the Orange Book system of the United States has provided

桔皮书，其尚处于起步阶段，而且尚处于起步阶段的初期阶段。当然，在制定过程中，美国桔皮书制度为中国《目录集》的制定提供了很好的经验和借鉴。

综观中国的《目录集》和美国的桔皮书，可以看出，两者出台的目的都是为了促进医药产业的发展，并使仿制药能够及时了解参比制剂和标准制剂的相关信息，这是仿制药研发的标准和起点。

但是，由于中美两国的制度环境、研发环境和产业环境上的差异，使得中国的《目录集》和美国桔皮书相比，仍存在不少差异。

首先，出台时的产业背景不同，美国桔皮书制度建立之初，正处于“零风险管制”法案使得整个产业创新能力下降，新药产出速度降低，仿制药因为缺乏价

valuable experience and reference for the formulation of the Catalog.

It can be seen that both the Catalog and the Orange Book were published for the purpose of promoting the development of the pharmaceutical industry, and enabling generic drug makers to timely acquire information about RLD and RS, the standards and starting point for the R&D of generic drugs.

However, due to the differences in system, R&D and industrial environment between the two countries, there are still many differences between the Catalog and the Orange Book.

First of all, the industrial backgrounds were different at the time of publication. The Orange Book system was established when the “Zero-risk Regulation” held a dominant position in the industry, which caused the decline of innovation, slow-down of new drug output, sluggish development of generic drugs due to the lack of price and cost advantage, mounting prices of drugs, and heavy burden of medical insurance. In the context of strong patent protection in the United States, the innovative drug industry was growing rapidly, at a much quicker pace than the generic industry. However, the

格和成本优势发展迟滞，整个社会药价居高不下，社会医保负担沉重的环境中。在美国强专利保护的背景下，美国创新药产业的发展迅速，远超仿制药产业，但实现药品的可及性又离不开仿制药产业的发展。美国出台桔皮书制度正是要通过收载所有基于安全性和有效性原则批准的处方药，以及符合治疗等效性原则而获批的多来源处方药（即仿制药），来鼓励仿制药品的临床替代使用。而在中国，仿制药产业在整个医药产业占据着决定性比重。由于种种原因，国外的创新药品不能及时进入中国市场，高质量药品需求无法得到有效满足。缺乏指定的创新药品，使中国仿制药长期低水平重复建设，使得整个医药产业的发展缓慢。

development of the generic industry is indispensable to the drug accessibility. The purpose of the Orange Book system was to encourage generic drug substitution in clinical use by listing all prescription drugs approved based on the principles of safety and effectiveness, as well as multi-source prescription drugs (generic drugs) approved based on the principle of the therapeutic equivalence. Whereas in China, the generic drug industry plays a decisive role in the whole industry. For various reasons, imported innovative drugs cannot enter the Chinese market in time, and the demands for high-quality drugs cannot be met. The lack of designated innovative drugs for reference has led to the long-term redundant low-level development of generic drugs in China, and slowed down the development of the whole industry.

第二，出台的目的不同。尽管最终目标都是为了实现仿制药与创新药在疗效和质量上的一致，进而实现仿制药对创新药的替代，最终实现药品的可及性，但由于美国自身创新药产业发达，其更关注仿制药的临床替代，

Second, the purposes were different. The ultimate goals of the both are to achieve equivalence in therapeutic effect and quality between generic drugs and innovative drugs, realize the generic drug substitution for innovative drugs, and finally to achieve the accessibility of drugs. However, because

以降低医疗成本，实现药品可及；而中国由于创新药产业不发达，多数创新药（截至目前为止仍是）为进口药品，《目录集》的制定主要是为了与“一致性评价”工作相互配合，以期实现国产仿制药对进口创新药的替代。《目录集》既是一致性评价的成果，又是一致性评价中仿制药研发的标准和起点，最终实现替代进口创新药，并进一步推动一致性评价工作。

第三，配套制度规则不同。尽管美国桔皮书的出台早于Hatch-Waxman法案，但随着实践的发展，桔皮书已经成为Hatch-Waxman法案所确立的专利链接制度的重要组成部分。同时，法案中还规定了诸如数据保护、专利保护期补偿等制度，构成了美国医药产业的创仿平衡的制度基础。而尽管中国的《目录集》是在两办《意见》的基础

the innovative pharmaceutical industry in the United States is quite developed, the U.S. authority has paid more attention to the generic drug substitution in clinical use, so as to reduce the medical cost and ensure accessibility of drugs; while in China, because the innovative pharmaceutical industry is underdeveloped and most of the innovative drugs are imported drugs (at least for the moment), the purpose of the Catalog is mainly to coordinate with the work of “equivalence evaluation”, so as to realize domestic generic drug substitution for imported innovative drugs. The Catalog not only is a fruit of the evaluation, but also serves as the standard and a starting point for the R&D of generic drugs in such equivalence evaluation, and finally helps realize substitution for imported innovative drugs, which in turn pushes the evaluation work forward.

Third, the supporting systems and regulations are different. Although the publication of the Orange Book was earlier than the passage of Hatch-Waxman Act, as the practice evolves, the Orange Book has become an important part of the patent linkage system established by Hatch-Waxman Act. At the same time, the Act also provided such systems as data protection, compensation system for the patent duration and so on,

上出台的，并且两办《意见》中也有关于专利链接、数据保护和专利保护期补偿的相关规定，但是，时至今日，与之相关的其他制度规则尚未颁布实施，使得《目录集》目前的功能和作用仅仅在于公示相关信息，主要供仿制药企业完成“一致性评价”。

此外，由于《目录集》颁行的时间不长，相关修改、修正、删除程序规则尚不明确，其实施效果也有待进一步观察。

which constitute the institutional basis for the “imitation and innovation” balance of the U.S. pharmaceutical industry. In contrast, although the Catalog of China was published on the basis of the Opinions of the Two Offices, and there are also provisions about patent linkage, data protection and compensation for the patent duration in the Opinions, as of now, other systems and regulations have not been issued and implemented. Therefore, the current function of the Catalog is merely to disseminate information, mainly for generic drug makers to finish “equivalence evaluation”.

What’s more, because the Catalog has been published only for a short period of time, the rules about modification, revision and delisting procedures are not clear, and further observation is needed for evaluation of its implementation results.

4. 《中国上市药品目录集》之完善

IMPROVEMENT ON THE APPROVED DRUG CATALOG OF CHINA

毋庸置疑。《目录集》的发布是深化医药产业改革，促进医药产业创新和发展的重要举措。由于中国尚没有药品专利链接制度，目前《目录集》的作用更侧重于信息公示，载入《目录集》的药品可以上市销售，并进入相关的医保招投标或定量采购体系。而按照两办《意见》，未来中国要探索建立药品专利链接制度，那么。《目录集》也将像美国的桔皮书一样，成为药品专利链接制度的重要组成部分。基于此，对

There is no doubt that the publication of the Catalog is an important measure to deepen the reform of pharmaceutical industry and promote the innovation and development of pharmaceutical industry. As the pharmaceutical patent linkage system does not yet exist in China, the current function of the Catalog is more focused on information dissemination. Drugs included in the Catalog can be sold on the market, and enter the medical insurance bidding or quantity-based procurement system. According to the Opinions of the Two Offices, China will explore the establishment of pharmaceutical patent linkage system in the future, and the Catalog will be expected to become an important part of such system, just like the Orange Book of the United States. In view of this, to

于目前的《中国上市药品目录集》，我们认为，在完善的过程中应当首先厘清如下问题：

1. 明确《中国上市药品目录集》的功能和定位

中国《目录集》的建设是中国医药改革的重要组成部分，也是两办《意见》的重要内容，其功能定位的确立应当与相关医药政策或制度改革相衔接，满足国家战略发展需求。具体而言，在政策环境层面，应与中国药品注册分类改革相匹配，充分考虑现阶段注册改革的发展状况；在制度改革层面，鉴于中国目前的情况，需要与仿制药“一致性评价”相衔接，体现一致性评价的进程，为仿制药的研发注册提供引导；在国家战略层面，鉴于中国正在建设创新型国家，相关制度建设应当既能保护创新药权益，激励创新，又能鼓

improve the Catalog, we think that priority should be given to the following issues:

1. Clarify the Functions and Roles of the Catalog

As an important part of the medical reform in China and important content of the Opinions of the Two Offices, the functions and roles of the Catalog should be positioned in coordination with the reform of pharmaceutical policies or systems, and the needs of national strategies. To be specific, at the policy level, the Catalog should be in line with the reform of drug registration classification, and the current status of registration reform; at the level of system reform, in view of the current situation in China, the Catalog needs to link to the “equivalence evaluation” of generic drugs, reflect the process of equivalence evaluation, and provide guidance for the R&D and registration of generic drugs; at the national strategy level, as China is striving to build an innovation-oriented country, the establishment of the system should not only protect the rights and interests of innovative drugs to encourage innovation, but also promote the generic drug substitution, so as to strike a balance between innovation and imitation. Specifically, this topic can be explained in following aspects:

励仿制药替代，进而实现创仿平衡。具体而言，可以包括如下几个方面:

第一，保护创新药的利益。《目录集》的首个重要功能是通过相关信息的及时全面公示，实现对创新药物相关权益的有效保护，这其中应当包括“权利公告”、“指定为 RLD”及“专利和数据保护”三个方面。“权利公告”指的是创新药品在获批上市的当日，相关信息将被及时收载入《目录集》中并予以公示，即《目录集》成为展示创新药合法上市的官方权利公告。“指定为 RLD”指的创新药被指定为参比制剂，这是创新药获得审批后的重要权利，它不仅标志着药品监管部门对其原创性和质量水平的认可，也将使其在下游的招标采购及医保政策环节中具有明显政策优势。因此，创新药物确立参比制剂地位，一定程度上意味着其将

First, protect the interests of innovative drugs. The foremost function of the Catalog is to protect the rights and interests of innovative drugs by publishing relevant information timely and fully, which should includes “right announcement”, “designating as RLD” and “patent and data protection”. With the “right announcement”, on the day when the innovative drugs are approved for marketing, relevant information should be timely included into the Catalog and published, that is, the Catalog will be the official right announcement to show the legal status of innovative drugs. “Designated as RLD” means that an innovative drug is designated as a Reference Listed Drug (RLD), which is an important right of the innovative drug after its approval. It not only marks the drug regulatory agency’s recognition of originality and quality of the innovative drug, but also gives it a clear policy advantage in the downstream bidding procurement and medical insurance policy. Therefore, once an innovative drug is confirmed as the RLD, it means that it will have larger market share and broader market prospects to some extent. “Patent and data protection” is the proper meaning for the protection of innovative drugs. In fact, although there are terms and conditions on data protection in the Provisions for Drug Registration, at present, the patent information published

具备更多的市场份额，拥有更广阔的市场前景。“专利和数据保护”，这是创新药获得保护的应有之义。事实上，尽管《药品注册管理办法》中有关于数据保护的相关规定，但是，目前《目录集》中登载的专利信息并不包括数据保护的内容。《目录集》中详细载明专利和数据保护信息项目，对有效落实药品专利保护制度、完善和落实药品数据保护制度、探索建立专利链接制度具有重要的现实意义，可有效保护创新研发者的合法权益，为促进医药产业创新升级助力。

第二，引导仿制药研发注册。《目录集》的另一项重要功能是为仿制药的研发注册提供引导支持，包括“技术引导”、“后续申报引导”和“法律引导”三方面。“技术引导”是指《目录集》将明确标识出仿制药在注册申报

in the Catalog does not include any content about it. The inclusion of detailed patent and data protection information items in the Catalog is of great practical significance for the effective implementation of drug patent protection system, the perfection and implementation of drug data protection system, and the exploration of establishing patent linkage system. It can effectively protect the legitimate rights and interests of innovative drug makers, and help promote the innovation and upgrading of the pharmaceutical industry.

Second, guide the R&D and registration of generic drugs. Another important function of the Catalog is to provide guidance and support for the R&D and registration of generic drugs from three aspects: “technical guidance”, “guidance for follow-up applications” and “legal guidance”. The Catalog offers “technical guidance” by designating the RLD as the standard to which all generic versions must be compared in drug registration applications, and the RS as reference standard for the bioequivalence test, disseminating to the public the dosage forms and specifications of the RLD and RS, and information about the marketing authorization holders and manufacturers, clarifying reference standard and access channels for generic drugs, providing

中需要依赖的参比制剂，以及在生物等效性试验中需对照的标准制剂，将相关参比制剂和标准制剂的详细剂型、规格信息也予以公示，并提供相应的上市许可持有人及生产厂商等必要信息，明确仿制药的参照标准和获取渠道，为仿制药研发试验的开展及注册申报提供充分的技术参考，以期引导和约束同类仿制药的研发和申报，避免滥改剂型、滥改规格等仿制药无序注册申报问题。“后续申报引导”是指《目录集》应及时收载所有基于质量和疗效一致性原则批准上市的仿制药，显示仿制药被批准合法上市，方便后续仿制药企业充分掌握当前市场上的同类产品状况，避免出现低水平重复或药品供应短缺等极端情况，以期优化产业结构、促进供给侧改革。“法律引导”是指《目录集》全面收载公示创新药品相关的专利保护信息和数据保护信息，可为仿制药企业充分掌握创新药的知识产权保护状态提供重要参考，引导仿制药企业合理制定研发及上市战略，避免上市后的专利侵权风险。

technical reference for R&D trials and registration applications of generic drugs. By this “technical guidance”, the R&D and applications of generic drugs can be guided and regulated, and improper practices in registration applications of generic drugs can be prevented, such as tampering of dosage forms and specifications. The Catalog offers “guidance for follow-up applications” by timely including in the Catalog all the generic drugs approved based on the principle of quality and therapeutic equivalence, and indicating that the generic drugs have been approved for marketing. In this way, the follow-up generic drug makers can fully understand the marketing status of similar products, and avoid extreme cases such as redundant low-level development and shortage of drug supply, which in turn can optimize industrial structure and promote supply-side reform. The Catalog offers “legal applications” by including in the Catalog all the patent protection and data protection information related to the innovative drugs, and providing important reference for generic drug makers to fully understand the intellectual property right status of the innovative drugs. In this way, generic

第三，落实创新政策，促进产业发展。《目录集》作为推动医药创新的重要举措，其最终的功能和定位应当立足于落实国家医药创新政策，促进医药产业的发展，包括体现一致性评价进程和推动仿制药可替代性的实现。《目录集》及时收载仿制药质量和疗效一致性评价阶段性成果，充分体现一致性评价进程，是中国《目录集》建设的一项重要任务。随着仿制药陆续通过一致性评价，该药品及相关信息将被及时收载入《目录集》中并明确标识，可为药品生产流通，尤其是下游优先采购及临床使用提供参考。根据国务院办公厅发布的《关于进一步改革完善药品生产流通使用政策的若干意见》（国办发〔2017〕13号）规定，同品种药品通过一致性评价的生产企业达到3家以上的，不再采购未通过一致性评价的药品；同时加快按通

drug makers can be guided to reasonably formulate R&D and marketing strategies, thus preventing patent infringement risks after the drug is approved for marketing.

Thirdly, implement innovation policies to promote development of the industry. As an important measure to promote pharmaceutical innovation, the functions and roles of the Catalog should be based on the implementation of national pharmaceutical innovation policy, and promotion of the development of pharmaceutical industry, including the process of quality and therapeutic equivalence evaluation and realization of generic drug substitution. The timely inclusion of the result of quality and therapeutic equivalence evaluation on generic drugs into the Catalog, which fully reflects the evaluation process, is an important function of the Catalog. Along with the generic drugs passing the equivalence evaluation one after another, the drugs and related information will in turn be included into the Catalog, which clearly marks that the drugs have been approved for manufacturing and marketing, thus providing reference for the downstream procurement and clinical use. According to the Some Opinions on Further Reform and Improvement on Policies Concerning Drug Manufacturing, Marketing and Use (Document No. 13, [2017]) issued

用名制订医保支付标准，鼓励通过一致性评价仿制药的使用。实现仿制药的可替代对控制医疗费用支出具有重要意义。而各项旨在鼓励仿制药替代使用的政策实施的前提条件，要能够明确哪些仿制药与原研药具有治疗等效性，可以相互替代使用。促进产业发展的最终目的是为了解决用药问题，实现药品可及性。

2. 立足中国国情，吸取国外经验教训

《目录集》的发布仅是开始，其完善和实施还需要很长的过程。作为一向非中国首创的制度，《目录集》的完善与发展不仅要立足于中国的实践，实现本土化，也要吸取国外的经验教训。

《目录集》应当博采众长，汲取国外先进经验和成果，同时避免各国存在的问题缺陷，

by the General Office of the State Council, when three or more than three companies have passed equivalence evaluation for a same kind of drug, the drugs that have not passed equivalence evaluation shall not be purchased; at the same time, adoption of medical insurance payment standard by non-proprietary names should be expedited, and use of drugs that have passed equivalence evaluation should be encouraged. The generic drug substitution is of vital importance to the control of medical expenses. The prerequisite of implementation of policies to encourage generic drugs is to clarify which generic drugs have therapeutic equivalence with innovative drugs, and can be taken as a substitute. The ultimate purpose of industrial development is to solve the problem of drug use, and to realize accessibility of drugs.

2. Based on China's Actual Situation, Draw on Experiences and Lessons from Foreign Countries.

The publication of the Catalog is only a beginning. There is still a long way to go for its perfection and full implementation. As a system which originated outside China, its perfection and development should not only rely on the practices and localization

充分发挥“后发优势”。美国的桔皮书自1980年首次发布至今已经实施了近四十年，期间也经历了通过司法判例和FDA行政决定不断完善，修正的过程，形成了内容全面完整、公示及时准确的桔皮书制度体系，标识参比制剂的药学信息及其专利和数据保护信息，并标识首仿药以及仿制药的治疗等效性评价代码，有效发挥了“创新导向”和“引导仿制”的制度功能。在实施过程中，也曾出现过关于滥用桔皮书制度，登载不当或错误等问题，这也可能会成为中国《目录集》所要面临的问题，而美国桔皮书制度对于这些问题的解决方案，也可以成为中国在构建中国版“桔皮书”时可以予以事先考虑或者提前预防的参考和借鉴。

同时，美国的制度环境与中国不同。美国在桔皮书颁布之前，创新药产业发达，特别

in China, but also draw on experiences and lessons from foreign countries.

The Catalog should draw on the advanced experience and achievements of foreign countries, avoid their problems and defects, and give full play to the “latecomer advantage”. The Orange Book of the United States has been implemented for nearly 40 years since it was first published in 1980. The Orange Book has undergone continuous improvement and amendments through judicial precedents and FDA administrative decisions, before it turns into a comprehensive and complete system with timely and accurate dissemination function. By identifying the pharmaceutical information, patent and data protection information of RLDs, as well as the first version generic drug and TE codes of generic drugs, the Orange Book has played the roles of “innovation orientation” and “guidance for generic drugs”. In the process of implementation, the Catalog of China will also face the same problems as the Orange Book, such as abuse of the system, improper registration or errors. The solutions of the Orange Book system to these problems can also be of great reference value, if China can anticipate and avoid such problems when constructing the Chinese version Orange Book.

是 Hatch-Waxman 法案的颁布，与其说是为了实现创仿平衡，不如说是更侧重于推动仿制药产业的发展，降低社会医疗和医保成本，提高药品可及性。因此，Hatch-Waxman 法案也被称为“仿制药法案”。而中国则以仿制药为主，创仿平衡一方面要推动创新药产业的发展，另一方面要提高仿制质量和水平，实现国产仿制药对进口创新药的替代。因此，《目录集》要充分考虑中国国情和药品注册审批体系发展所处的阶段性差异。一是随着中国新化学药品注册分类的实施，新药概念调整为“全球新”，与美欧日等国家或地区的“国内新”有显著不同，由此也派生出了 3 类仿制药等一系列中国特有的新情况。二是长期以来中国仿制药采取的是“仿标准”而非“仿产品”原则，大批仿制药在上市前并未进行治疗等效性评估。三是中国进口

At the same time, the institutional environment of the United States is different from that of China. Before the Orange Book was issued in the United States, the innovative drug industry was quite developed. Especially, the passage of Hatch-Waxman act was more focused on promoting the development of the generic drug industry to reduce the cost of social medical care and medical insurance, and improve the accessibility of drugs, instead of striking a balance between innovation and imitation. As a result, the Hatch-Waxman Act is also known as the “Generic Drug Act”. While in China, generic drugs are in dominant position, so the balance between innovation and imitation should on the one hand, promote the development of innovative drug industry; on the other hand, improve the quality and level of generic drugs, so as to realize the generic drug substitution for imported innovative drugs. Therefore, the Catalog should take full account of China’s practical conditions and the differences between the two countries in the development stages of drug registration and approval system. First, with the implementation of the new classification system for registration of chemical drugs, the definition of new drugs has been adjusted to “globally new”, which is significantly different from the “domestically new” in the United States, Europe, Japan and

药品和国内药品注册申报实行“分通道”运行的制度特点。因此，《目录集》的建设在充分借鉴各国先进经验的同时，也要立足中国国情和实践，创造性的开展新思考、探索新路径、建立新方法，以期实现与药品注册审批制度的无缝衔接。

3. 厘清《中国上市药品目录集》存在的问题

就目前的《目录集》而言，其实施所面临的最主要问题是与之相配套的制度尚未正式出台或具有可操作性。尽管美国桔皮书制度出台的初衷并非为了配合 Hatch-Waxman 法案，但是，在法案出台后，桔皮书做了有史以来最大规模的扩容，以期能够与 Hatch-Waxman 法案所制定的新规则相适应，特别是药品专利链接制度、数据保护和专利保护期补偿制度。而

other countries or regions, thus deriving a series of new situations unique to China, such as existence of three kinds of generic drugs. Second, for a long period of time, China's generic drugs have adopted the principle of "imitating standards" rather than "imitating products", so a large number of generic drugs have not been evaluated for therapeutic equivalence before they get on the market. Third, China has adopted "separate channels" for the registration and application of imported drugs and domestic drugs. Therefore, while learning from the advanced experience of other countries, the construction of the Catalog should also be based on China's practical conditions. New thinking, new paths, and new methods should be explored to realize the seamless connection between the Catalog and the drug registration and approval system.

3. Clarify Existing Problems of the Catalog

As far as the current version Catalog is concerned, the major problem for its implementation is the lack or impracticability of supporting systems. Although the Orange Book system was not originally intended to coordinate with the Hatch-Waxman Act, after the passage of the Act, the content of the Orange Book was expanded in the largest scale ever to adapt to the new rules

尽管两办《意见》中明确提出，要建立上市药品目录集，探索建立药品专利链接制度，开展药品专利期限补偿制度试点，完善和落实药品试验数据保护制度，但目前已经初步完成的仅有建立上市药品目录集一项，与之相配套的专利链接制度，专利补偿期制度尚未出台，药品试验数据保护制度也仅仅止步于法规的规定，缺乏具体的可操作的程序。这也使得《目录集》所能发挥的作用受到了极大的限制。

就目前《目录集》登载的专利信息而言，首先，目前的《目录集》要求登载的专利信息仅仅包括专利号、专利类型及专利到期日。《目录集》中收载公示的专利，均指在中国国内已获授权的专利，不包括国外专利和专利到期的专利等。专利类型包括化合物专利、产品专利（包括制剂专利和组合

in the Act, especially the pharmaceutical patent linkage system, data protection and compensation system for the patent duration. Although the Opinions of the Two Offices clearly pointed out the need to formulate a catalogue for drugs on the market, explore the establishment of pharmaceutical patent linkage system, carry out the pilot project for the compensation system for the patent duration, and improve and implement the drug trial data protection system, for the moment, among them, only the Catalog has been formulated, the supporting patent linkage system and compensation system for the patent duration have not been put in place, and the drug trial data protection system stops at the level of laws and regulations, has no practicable procedure to follow. Therefore, the functions of the Catalog have been greatly limited.

As far as the patent information included in the Catalog is concerned, first, the patent information required by the current version Catalog only includes patent number, patent type and patent expiration. The patents published in the Catalog are the patents authorized within China, and do not include foreign patents and expired patents. The patent types include drug substance patent, drug product patent (including formulation patent and composition patent), method-of-

物专利）、用途专利（保护药品适应症用途）三类。其中化合物专利不包括晶型专利。专利信息库、数据保护信息库以及独占期信息库之间的没有建立关联路径，这也是由于中国尚未建立专利补偿期制度，数据保护制度缺乏可操作性所导致的。此外，对于方法专利，建议对相关的方法予以概述。

use patent (to protect indication and use of the drug). Among them, the drug substance patent does not include crystal form. Due to the fact that China has not yet established a compensation system for the patent duration and a data protection system, a linkage mechanism among patent information database, data protection information database and exclusivity information database has not yet been established. In addition, regarding method-of-use patents, we recommend summarizing the relevant methods.

活性成分	替格瑞洛
Active Ingredient	Ticagrelor
药品名称	替格瑞洛片
Drug Name	Ticagrelor Tablets
商品名	倍林达
Brand Name	BRILINTA
剂型 Dosage Form	片剂 Tablet
给药途径 Route	口服 Oral
规格 Specification	90mg
参比制剂 RLD	是 Yes
标准制剂 RS	是 Yes
TE 代码 TE Code	AB
ATC 代码 ATC Code	B01AC24
批准文号 / 注册证号 Approval No. / Registration Certificate No.	H20171079
批准日期 Approval Date	2012-11-22

上市许可持有人 Marketing Authorization Holder	AstraZeneca AB		
生产厂商 Manufacturer	Astrazeneca AB		
上市销售状况 Marketing Status	上市销售中 Being marketed and sold		
收录类别 Category of drugs listed	进口原研药品 Imported innovative drug		
专利信息 Patent Information	专利号 Patent No.	专利到期日 Patent Expiration	专利类型 Patent Type
	ZL99815926.3/ CN1128801C	2019-12-02	化合物
说明书	暂无 N/A		
审评报告	暂无 N/A		

第二，没有规定专利信息登记错误的修正和调整程序。美国桔皮书制度实施之初，也没有相关程序，但实践中出现了 NDA 申请人或者专利权人错误或不当登记，导致仿制药上市时间被不当延迟问题。基于此，法律上规定了相关的救济途径。允许权利人及第三人提出修正要求。中国《目录集》目前并没有明确的相关程序规则，极可能导致《目录集》登载信息不准确，而缺乏救济途径。

第三，尽管规定了药品监管机构的责任，要求保证目录集内容准

Second, there is no correction and remedy procedure for the registration errors of patent information. At the initial stage of the Orange Book system in the United States, there were no such procedure either, so wrong NDA applicants or patentees or improper registration of patents occurred in the practice and led to the improper delay of the time to market of generic drugs. In view of this, the law provided the remedy approaches, which allowed the patentees and third parties to request for correction. At present, there is no clear procedure or rule in this regard in the Catalog, which definitely may cause inaccurate information and lack of remedy approach.

Thirdly, although the Catalog stipulates the responsibilities of drug regulatory agency, including accuracy and timely updating of the content of the Catalog, stable operation

确和持续更新，保障数据库稳定运行，实现信息的及时公开，但对于上市许可人或者专利权人滥用《目录集》的惩戒并没有明确规定，极可能导致专利权人滥用《目录集》，妨碍仿制药上市。

4. 完善《中国上市药品目录集》之建议

在厘清上述问题的基础上我们者主要从专利法以及专利法与药品法衔接的角度，对《中国上市药品目录》的完善提出如下建议：

（1）登载的专利

尽管中国尚未建立药品专利链接制度，但是《目录集》中收载药品专利信息和数据保护信息，将为探索药品专利链接制度、药品数据保护制度提供便利的公示途径，推动药品注册审批制度与药品知识产权保护制度的有效衔接。

of the database, and timely disclosure of information, there is still no punishment for the abuse of the Catalog of the marketing authorization holders or patentees, to prevent such abuse which may hinder generic drugs from entering the market.

4. Suggestions for Improvement on the Catalog

After clarifying the above issues, we put forward the following suggestions for the improvement of the Catalog, mainly from the perspective of patent law and the connection between Patent Law and Drug Law:

(1) Patents published in the Catalog

Although China has not yet established the pharmaceutical patent linkage system, the drug patent information and data protection information included in the Catalog will provide a convenient dissemination channel for the pharmaceutical patent linkage system and the drug data protection system, and promote effective linkage between drug registration approval system and drug intellectual property right protection system. Therefore, policy interfacing should be reserved for the establishment and design of the Catalog, so that the pharmaceutical patent linkage system and the drug data

因此，《目录集》的建设与设计，应当考虑预留相应的政策接口，使得未来专利链接制度及数据保护制度实施时，可以有效与之衔接和配套。

《目录集》公示专利信息，是药品注册程序和专利链接程序相衔接的基础。包含专利信息的《目录集》的形成与新药注册程序密切相关。申请人提交新药申请时提交药品相关专利信息，待新药获批后，国家药监部门对提交的专利信息进行形式审查，进而公示在《目录集》的专利信息库中。

根据 FDA 的规定，凡是根据 FD&C 法案第 505 (b) 条向 FDA 提交 NDA 申请及其补充申请的申请人，必须提交保护其药品的专利信息。因此中国应当既遵循国际规则，也应考虑中国特殊的注册制度现状，合理确定需要提交专利

protection system can be effectively linked and matched with the Catalog in the future.

The patent information in the Catalog is a basis for the connection between drug registration and patent linkage system. The Catalog including patent information is closely related to the new drug registration procedure. First, the applicant submits patent information related to the drug for new drug application. After the new drug is approved, the drug regulatory agency will conduct formality examination on the patent information submitted, and then publish it in the patent information database of the Catalog.

According to FDA regulations, any applicant who files an NDA application and its supplementary application to FDA in accordance with Section 505(b) of FDCA must submit patent information to protect their drugs. Therefore, China should reasonably determine the types of drugs that require submission of patent information, not only following international rules, but also considering the current situation of China's special registration system. In general, regarding the Class 1 (innovative drugs), Class 2 (modified new drugs) and Class 5.1 (overseas marketed innovative drugs) drugs by the new classification system for

信息的药品的类型。一般情况下，对于新化学药品注册分类中的 1 类（创新药）、2 类（改良型新药）和 5.1 类（境外上市的创新药品）药品，为保证专利信息按时提交，新药申请人或者上市许可持有人必须在提交上市申请或补充申请时将专利信息一起提交；对于在药品批准后获得授权的专利，应当在授权后 30 日内提交。国家药监部门完成专利信息的形式审查后，在《目录集》中予以公示。而对于 3 类药（仿制境外上市但境内未上市创新药的药品）的创新药，由于其未经过国家药监部门的批准在中国上市，也没有向药监部门提交专利信息，因此《目录集》中并未收载该创新药品及其专利信息。为防止仿制药上市侵犯其专利权，便利仿制药的研发上市，对于此类国外上市创新药，可经有仿制意向的企业通过“现仿先报”模式申请后，

registration of chemical drugs, to ensure timely submission of patent information, the NDA applicants or marketing authorization holders are required to submit the patent information when they file application or supplementary application; patents authorized after the approval of the drug should be submitted within 30 days of authorization. After the drug regulatory agency completes the formality examination of the patent information, it will be published in the Catalog. As the Class 3 drugs (generic drugs imitating innovative drugs on the overseas market instead of on the Chinese market) have not been approved by the drug regulatory agency for marketing in China, and their patent information has not been submitted to the drug regulatory agency, the Catalog does not include Class 3 drugs and their patent information. For the purpose of preventing generic drugs from infringing upon their patent rights, and facilitating the R&D and marketing of generic drugs, after generic drug makers file application by the “apply for approval before registration” model, the drug regulatory agency can designate such innovative drugs on the overseas market as RLD and include them in the Catalog.

In addition, regarding the generic drugs that have passed equivalence evaluation

由药监部门指定为参比制剂并收载公示于《目录集》中。

此外，对于中国现阶段一致性评价的仿制药而言，由于专利链接的本质是在仿制药注册过程中，预防涉嫌专利侵权的仿制药上市，而其作为已上市仿制药不存在专利链接的问题，故其参比制剂亦不再涉及专利信息提交的问题。

《目录集》中收载公示的专利，均指在中国国内已授权且处于有效状态的专利，不包括国外授权专利、处于申请中尚未获得授权的专利申请、专利期已满或无效的专利。《目录集》公示的专利类型为化合物专利、产品专利和用途专利三类，其中，化合物专利是指保护该新药活性成分的专利，不包括晶型专利；产品专利是指保护该药品产品的专利，包括制剂专利和组合物专利；用途专

in China, the essence of patent linkage is to prevent the generic drugs suspected of patent infringement from being approved for marketing in the process of generic drug registration. For the generic drugs already approved for marketing, there is no patent linkage problem, so their RLDs are no longer related to the problem of patent information submission.

The patents published in the Catalog are the valid patents authorized within China, and do not include foreign patents, patents not yet authorized, expired or invalid patents. There are three patent types in the Catalog: drug substance patent, drug product patent, method-of-use patent. Among them, the drug substance patent is to protect the active ingredient of the new drug and does not include crystal form; drug product patent is to protect the drug product, including formulation patent and composition patent; method-of-use patent is to protect indications of the drug, which have been approved or are pending approval. When filing application for marketing approval of part of the indications, generic drug applicants can submit statements about method-of-use patents that are not involved.

Whether the patents in the Catalog should be limited to chemical drugs, or the patent

利是指保护药品的已经批准或正在申请批准的适应症的专利。当仿制药申请人提交部分适应症的上市申请时，针对不涉及的用途专利可以提交相应声明。

关于《目录集》所登载的专利是否应限于化学药，还是与韩国、加拿大一样把生物药纳入其中（美国的生物药登载于“紫皮书”中），甚或者把极具中国特色的中药专利也纳入其中，取决于未来药品专利链接制度的适用范围。我们认为，就目前而言，既然两办《意见》中对于药品专利链接制度提出的是“探索建立”，初期以化学药为切入点进行探索，并非不能接受。随着实践的发展，可以考虑逐步扩大登载范围，将生物药与中药的专利信息也纳入其中。

此外，美国桔皮书明确将药品活性成分的制造方法专利，中间体和代谢物的专利，包装专利等排除在应登记在桔皮书的专利的范围之外，中国《目录集》则仅仅有正面规定，并明确排除了

information of biological drugs should also be included just like South Korea and Canada (the United States publishes biological drugs in the “Purple Book”), or even that of Chinese traditional medicine patents with Chinese characteristics should also be included, depends on the application scope of pharmaceutical patent linkage system in the future. In our opinion, for the moment, since the Opinions of the Two Offices proposed “exploring establishment” of pharmaceutical patent linkage system, it is not unacceptable to take chemical drug as an entry point at the initial stage. Along with the implementation of the Catalog, the overage of patents can be expanded step by step, and the patent information of biological drugs and Chinese traditional medicine can also be added.

In the United States, “process patents, patents claiming packing, patents claiming metabolites, patents claiming intermediates...” shall not be submitted to FDA , and therefore will be excluded by the Orange Book. While in China, the Catalog only has positive provisions, and clearly excludes the crystal form from the drug substance patent. Therefore,

化合物中的晶型专利，因此，可以考虑将排除清单予以明确。

（2）登载的专利信息

美国桔皮书中专利信息公示项目包括产品编号、药品名称、活性成分、剂型、规格、专利号、专利到期日、专利类型、专利删除申请、专利提交日期，如下图所示：

the further clarification of the exclusion list can be considered.

(2) Patent information to be published

The patent information items to be published in the Orange Book of the United States include product number, drug name, active ingredient, dosage form, specification, patent number, patent expiration, patent type, delist requested, and patent submission date, as shown below:

Product 003
DABIGATRAN ETEXILATE MESYLATE (PRADAXA) CAPSULE EQ 110MG BASE

Patent Data

Product No	Patent No	Patent Expiration	Drug Substance	Drug Product	Patent Use Code	Delist Requested	Submission Date
003	6087380	12/28/2021	DS	DP	U-1931		12/15/2015
003	7866474	08/31/2027		DP		Y	08/01/2011
003	7932273	09/07/2025	DS	DP			12/15/2015
003	9034822	01/20/2031			U-1759		12/15/2015

美国桔皮书公示的专利信息示例
Patent information items published in the Orange Book of the US

其中，“已要求删除”是指有任何人对该专利在桔皮书的公示存在异议，已经提出从桔皮书删除该专利的请求。“申请提交日”是 2017 年 11 月 21 日新增加的

Among them, “Delist Requested” means anyone who disagrees with the publication of the patent in the Orange Book has made a request to delist the patent from the Orange Book. “Submission Date” is a new column added on November 21, 2017, which means the date when FDA receives patent information

一栏内容，指的是 FDA 收到 NDA 申请人提交的专利信息的日期，用于规范 NDA 申请人及时提交其专利信息。

中国《目录集》公示的专利信息应当遵循和借鉴桔皮书规则，同时与中国现阶段桔皮书收录需求相适应。因此《目录集》公示的专利信息项目包括专利号、专利类型和专利到期日，有专利延长的，延长期包含在专利到期日中，不单独公示。

submitted by NDA applicants, and is used to ensure NDA applicants' timely submission of patent information.

The patent information published in the Catalog should follow and make reference to the Orange Book, and adapt to the needs of the current Chinese version Orange Book. Therefore, the patent information items to be published in the Catalog include patent number, patent type and patent expiration. Where there is an extension of the patent validity, the extended period is added to the patent expiration, and will not be published separately.

药品名称 Drug Name	活性成分 Active Ingredient	上市许可持有人 Marketing Authorization Holder	批准文号 / 注册证号 Approval No. / Registration Certificate No.	专利号 Patent No.	专利到 Patent Expiration	化合物专利 Compound Patent	产品专利 Product Patent	用途专利 Method-of-use Patent
施达赛 Sprycel	达沙替尼 Dasatinib	Bristol-Myers Squibb Pharma EEIG	H20130589	CN 1980909B	2025-02-04	DS		

《目录集》专利信息公示示例

Patent information items in the Catalog

（3）与配套制度相衔接

如前所述，美国桔皮书在 Hatch-Waxman 法案出台后，进行了大规模扩容，旨在使之与药品专利链接制度、专

(3) Linkage with Supporting Systems

As mentioned before, after the passage of the Hatch-Waxman Act, the content of the Orange Book was expanded in the largest scale ever to adapt to the pharmaceutical patent linkage system, compensation system

利保护期补偿制度、药品数据保护制度相衔接，以期实现法案的创仿平衡，促进产业发展的目的。

中国的专利链接制度和专利保护期补偿制度尚未建立，数据保护制度缺乏可操作性，但是，作为两办《意见》中“促进药品创新和仿制药发展”的重要举措，《目录集》的建设应当预留与相关制度衔接的接口。基于此，一方面，专利信息公示时的专利到期日应当涵盖专利保护期补偿的期间，如果是在药品上市审批后完成的专利保护期延长，应当及时更新。另一方面，应当将相关公示信息与数据保护信息库相衔接。《目录集》公示药品数据保护信息，是药品注册程序和药品数据保护程序相衔接的基础。申请人在提交药品上市申请时，可同时提交试验数据保护申请，新药获批时，国家药监

for the patent duration and drug data protection system, so as to strike a balance between innovation and imitation, and promote the development of the industry.

While in China, the patent linkage system and compensation system for the patent duration have not been put in place, and the drug trial data protection system has no practicable procedure to follow. As an important measure to “promote the pharmaceutical innovation and development of generic drugs” (as stated in the Opinions issued by the Two Offices), policy interfacing with relevant systems should be reserved for the construction of the Catalog. In view of this, on the one hand, the compensated period for the patent duration should be added to the patent expiration date when the information is published. If the patent duration is extended after the marketing approval of the drug, it should be updated in a timely manner. On the other hand, the information to be published should be linked with data protection information database. The publication of drug data protection information in the Catalog is the basis for the linkage between drug registration and drug data protection system. When filing an application for marketing approval, the applicant can also apply for trial data protection. When approving a new drug,

部门同时确定授予其相应类别的数据保护期，相关信息公示在《目录集》中。《目录集》公示的数据保护信息项目包括数据保护类型、数据保护到期日。

the drug regulatory agency grants it a data protection period of corresponding category, and publish the information in the Catalog. The data protection information items in the Catalog are Data Protection Category and Data Protection Expiration.

商品名称 Drug Name	活性成分 Active Ingredient	上市许可持有人 Marketing Authorization Holder	批准文号 / 注册证号 Approval No. / Registration Certificate No.	数据保护类型 Data Protection Category	数据保护到期日 Data Protection Expiration
艾坦 AiTan	甲磺酸阿帕替尼 Apatinib Mesylate	江苏恒瑞医药股份有限公司 Jiangsu Hengrui Medicine Co., Ltd.	H20140103	1 类 Class 1	2020-10-17

《目录集》数据保护信息公示示例

Data protection information items in the Catalog

（4）《中国上市药品目录集》登记错误的修正与调整

如前所述，由于药监部门对于专利信息登记的准确性仅做形式审查，一旦出现信息登记错误、不当等情形，可能会对仿制药上市申请造成妨碍，因此，应当制定关于信息登记错误或者不当登记时的救济途径。这个途径主要应当为行政途径，即当上市许可持有人或专利权

(4) Correction and remedy procedure for the registration errors in the Catalog

As mentioned before, the drug regulatory agency only conduct formality examination on the patent information submitted. Once wrong information or improper registration occurs, the marketing application of generic drugs may be hampered. In view of this, remedy approaches should be provided in case of wrong information or improper registration. These approaches should be mainly through administrative channels, i.e., when marketing authorization holders or patentees identify wrong registration information, they can propose requests

人发现登记信息有误时，可以向药监部门申请进行修正，药监部门在核实情况后，确发现登记有误的，应当及时予以调整。而仿制药企业或第三方发现登记信息有误时，可以向药监部门申请更正。此时，药监部门应当将相关请求转给上市许可持有人或专利权人，并根据核实的情况，确认是否对登记信息予以调整。

（5）滥用《中国上市药品目录集》制度的惩戒

在美国的实践中，对于 NDA 申请人或专利权人没有登载相关专利信息所可能导致的后果，法律上并未规定，而仅仅是体现为当仿制药企业进行专利挑战时，相关信息登记的缺失可能导致创新药企业丧失 30 个月的批准等待期。而专利信息登载不当导致的负面影响经过 2003 年对于 Hatch-Waxman 法案的修正已经有所规制。

to regulatory agency for correction. After checking on the situation, if the mistake in the registration information is confirmed, it should be corrected in a timely manner. If it is a generic drug maker or a third party who identifies the mistake, they can file an application for correction with the drug regulatory agency, which in turn should forward the application to the marketing authorization holder or patentee, and confirm whether the information should be corrected based on their feedback.

(5) Punishment for abuse of the system of the Catalog

In the United States, the law does not provide for any punishment for NDA applicants or patentees not registering relevant patent information. Once there is a patent challenge from a generic drug maker, the innovative pharmaceutical company or the patentee has no right to enjoy the protection from 30-month stay of FDA approval of generic ANDA. Since the amendment of Hatch-Waxman Act in 2003, the negative impact caused by improper registration of patent information has been regulated. In practice, the United States also experienced the stage of recourse to remedy by the competition law.

实践中，也曾经历过诉诸竞争法相关诉讼寻求救济的阶段。

由于目前中国尚没有药品专利链接制度，因此，对于上市许可持有人或专利权人滥用《目录集》制度的负面影响应当仅及于信息公示不准确可能导致《目录集》对仿制药的技术引导、研发注册引导及法律引导将会受到影响。在将来实施药品专利链接制度的情况下，滥用《目录集》制度，可能会导致仿制药上市受到延迟。因此，我们认为，有必要对于上市许可持有人或专利权人滥用《目录集》制度的行为予以惩戒，如发现滥用行为，则一定时间内不予提交或核发新药注册证等。

需要指出的是，尽管我们就《目录集》的修改和完善提出了前述建议，并将在下文中借鉴已有成果中关于《目录集》的示例及说明，但是，《目录集》的最终走向还应当以中国确立药品专利链接制度、专利保护期补偿制度以及具有可操作性的

At present, pharmaceutical patent linkage system has not been put in place in China, so the negative impact on the abuse of the Catalog by the marketing authorization holders or patentees should be limited to the extent that the inaccurate information in the Catalog may affect its functions of technical guidance, R&D registration guidance and legal guidance for the generic drugs. However, when the pharmaceutical patent linkage system has come into existence in the future, the abuse of the Catalog may lead to the delay of time to market of generic drugs. Therefore, we believe that the punishment is necessary for the marketing authorization holders or patentees' abuse of the Catalog. Where any abuse is detected, application for new drug registration certificate cannot be submitted or the certificate will not be issued within a certain period of time.

It should be noted that although we have put forward the above suggestions on the amendments and improvements on the Catalog, and use as reference the following Illustrations and Explanations on the Catalog from the existing studies, the ultimate

数据独占制度为前提和基础，因此，《目录集》的内容的最终确定还有待于上位法中确定中国实施药品专利链接制度等相关制度后，才能更有针对性地对其具体内容进行修改和完善。

orientation of the Catalog should also be premised on the basis that China has established the pharmaceutical patent linkage system, compensation system for the patent duration and practicable data exclusivity system. Therefore, the final determination of the contents of the Catalog will be subject to the establishment of pharmaceutical patent linkage system through making a higher level law. Only until then can we make targeted amendments and improvements on the specific contents of the Catalog.

结语：《中国上市药品目录集》示例及说明

CONCLUSION: ILLUSTRATIONS AND EXPLANATIONS ON THE CATALOG

中国药科大学丁锦希教授的团队对于《目录集》的结构所做的建议，笔者认为，可以参考。[71]

The author of this paper believes that the suggestions made by Professor Ding Jinxi's team from China Pharmaceutical University for the structure of the Catalog are worth considering. [71]

[71] 参见：中国药科大学丁锦希教授研究团队：《中国药品桔皮书制度建设研究结题报告》，第 65-69 页。

[71] Refer to: Professor Ding Jinxi's team from China Pharmaceutical University: Concluding Report on the Study of Construction of Chinese Version Orange Book System. pp. 65-69.

原研药使用商品名；仿制药使用通用名
Innovative drugs are listed by brand names, while generic drugs by non-proprietary names

国内上市/国外上市/撤市
Being sold and marketed in China/ being sold and marketed overseas/ withdraw from the market

复方制剂各活性成分以分号隔开
For compound drug products, use semicolons to separate the active ingredients.

RLD 和 RS 标注栏，标记为“是”
RLD and RS columns, marked as "Yes"

市场状态 Marketing status	收录类别 Category of drug listed	药品分类 Drug classification	批准文号/注册证号 Approval No./ Registration Certificate No.	活性成分 Active ingredient	药品名称 Drug name	剂型 Dosage form	给药途径 Route	规格 Spec.	批准日期 Date of approval	RLD	RS	TE 代码 TE code	上市许可持有人 Marketing authorization holder	生产商 Manufacturer

“A”类代表治疗等效，“B”类代表治疗不等效
Type A means the drugs are therapeutically equivalent;
Type B means the drugs are not therapeutically equivalent.

处方药标记为“RX”，非处方药标记为“OTC”
Prescription drugs are marked as "RX" and OTC drugs are marked as "OTC".

（一般情况）新药品注册分类 1 类、2 类、3 类、4 类、5.1 类、5.2 类
（特殊情况）通过一致性评价、未进口
(General situation) Class 1, Class 2, Class 3, Class 4, Class 5.1 and Class 5.2 in the new drug registration classification.
(Special situation) The drugs that have passed equivalence evaluation and the drugs that have not been imported.

主表项目释义：

1. 市场状态：表示药品当前的上市批准状态。共有三种标识情况：“国内上市”、“国外上市”以及“撤市”。此项目的标记与《目录集》中收载的药品范围相匹配，对于分类为一般情况的药品，以及特殊情况中通过一致性评价的产品，均在此栏目中标记为“国内上市”；对于特殊情况中未进口产品，标注为“国外上市”，其主要包含以下两种情况：① 新药品注册分类中“3类”仿制境外上市但境内未上市原研的药品，其参比制剂为此种情况；② 一致性评价阶段公布的参比制剂目录中未进口的参比制剂；“撤市”代表国内上市的药品因非安全性或有效性撤市。

此项信息的公示主要起到发挥引导后续仿制药的研发注册的功能。对于标注为“国外上市”及“撤市”的参比制剂

Explanations of the items in the master table

1. Marketing status: refers to the marketing approval status of the drug. The item uses three marks: “being sold and marketed in China”, “being sold and marketed overseas”, “withdrawn from the market”. The marks used by this item correspond to the categories of drugs included in the Catalog. For the drugs in the general situation and the drugs that have passed equivalence evaluation in the special situation, this item should be marked as “being sold and marketed in China”. For the drugs that have not been imported in the special situation, the item should be marked as “being sold and marketed overseas”. These drugs fall on two sub-categories: ① RLDs for Class 3 drugs (generic drugs imitating innovative drugs on the overseas market instead of on the Chinese market); ② the RLDs that have not been imported but included in the RLD list published during the period of equivalence evaluation. “Withdrawn from the market” means that the drugs on the Chinese market have been withdrawn for reasons other than safety and effectiveness.

The information of this item is published mainly to guide the follow-up R&D registration of generic drugs. For the poor accessibility of the RLDs marked as “being

可获得性较差，仿制药企业在品种选择上可规避此类产品，或者可申报其自家产品成为参比制剂，更有利于促进《目录集》中药品市场状态向国内上市转变。

2. 收录类别：收录类别包括收载药品范围中的一般情况，即新药品注册分类里 1 类、2 类的新药，3 类、4 类的仿制药、5 类进口产品，以及特殊情况中通过一致性评价与国外上市未进口产品。收录类别也可看作是对于不同市场状态的药品进一步细致划分。

因不同的药品类别，其产品属性、研发生产、注册审评通道、审批原则等方面存在诸多差异。因此，对于药品类别的标识与公示，可引导后续仿制药的研发注册。其次，不同的收录类别可与药品供应链下游环节相衔接，如其中标记为“通过一致性评价”

sold and marketed overseas" and "withdrawn from the market", generic drug makers can avoid such products in drug selection, or file an application for their own products to be designated as RLD. This guidance can promote the shift of the drug marketing status in the Catalog toward the domestic marketing.

2. Category of drugs listed: this item covers the drugs included in the Catalog as general situation, i.e., Class 1 and Class 2 new drugs, Class 3 and Class 4 generic drugs, Class 5 imported drugs by the new drug registration classification, as well as the drugs that have passed equivalence evaluation and drugs on the overseas market but not imported as special situation. "The category of drugs listed" can be deemed as a subdivision of drugs in different marketing status.

First, because product nature, R&D and manufacturing, registration review channel and principle of approval vary greatly among different drug categories, the marking and publication of the drug categories can guide the follow-up R&D and registration of generic drugs. Second, different categories of drugs listed can be linked with down-stream drug supply chain. For example, the mark "having passed equivalence evaluation" can provide reference information for quality

的产品，可为招标采购质量分层提供参考信息，对于医保支付标准的制定以及药品进入医保目录的方式皆具有一定的指导功能。

3. 药学相关信息：具体包含药品分类、批准文号 / 注册证号、活性成分、药品名称、剂型、给药途径、规格以及批准日期的药品基本信息。

“药品分类”一栏分为处方药与非处方药两种情况，处方药标记为“RX”，非处方药标记为“OTC”，可为临床用药提供指导。

“批准文号 / 注册证号”一栏中，国产药品采用批准文号，进口药品采用注册证号。国外上市的药品可考虑采用“国别 + 申请号（上市国别）”的方式，此举可进一步增强参比制剂的可溯源性。

“药品名称”项目

stratification for bidding procurement, and have certain guidance function for formulation of medical insurance payment standard and the way drugs enter the National Drug Reimbursement List.

3. Pharmaceutical information: basic information about the drug, including approval number/registration certificate number, active ingredient, drug name, dosage form, route, specifications and date of approval.

“Drug Classification”: there are two classifications, prescription drug and OTC drug, the former being marked as “RX” and the latter as “OTC”, to provide guidance for clinical use.

“Approval No. / Registration Certificate No.”: the Approval No. is for domestic drugs; Registration Certificate No. is for imported drugs. For the drugs being marketed overseas, “country name (country that grants marketing approval) + application number” can be considered for the purpose of improving traceability of RLD.

“Drug Name” item is designed based on the practice of the United States and Japan, as well as China’s consideration on the standard management of drug names. Innovative

的设计，是基于美国及日本的实践经验以及中国对于药品名称相关管理规定的考虑，原研药以商品名收录，仿制药以通用名收录。

对于创新药物相关信息的及时全面公示，首先是对其权利的公告。同时，详细的剂型、规格信息的公示，可发挥引导与规范同类仿制药剂型及规格的研发，有利于控制一致性评价时期出现的改剂型、改规格的情况出现。

对于仿制药而言，上市信息的详实公布同样是对其权利的公告，说明其药品的质量已经得到药品监管部门的批准与认可。同时，为后续仿制药的研发与申报提供参考，便于仿制药及时了解当前市场上的同类产品状况，引导产业合理分配研发资源，避免出现低水平重复或药品供应短缺等极端情况。

drugs are listed by brand names, while generic drugs by non-proprietary names.

Information about innovative drugs should be published in a complete and timely manner. For this purpose, the information of foremost importance is the right for innovative drugs. Meanwhile, the information about dosage form and specification also serves as guidance and reference for the R&D of generic versions, so detailed publication of this information can help prevent tampering of dosage form and specification during the period of equivalence evaluation.

For generic drugs, detailed publication of their marketing information also serves as public announcement of their rights, and means their quality have been approved and recognized by the drug regulatory agency. Meanwhile, it also provides reference for R&D and application of follow-up generic drugs, so that generic drug makers can get informed of the marketing status of similar products in a timely manner, reasonably allocate their R&D resources, and avoid extreme cases such as redundant low-level development and shortage of drug supply.

4. RLD and RS: Reference Listed Drug (RLD) is a CFDA-designated approved drug product to which new generic drugs are compared

4. RLD 与 RS： 参比制剂（RLD）是指作为仿制药申报中参照的CFDA指定的已批准药物；标准制剂（RS）是仿制药在所需的对比试验研究中所使用的对照药品。在目录中对于这两项信息予以公示，明确了仿制药的参照对象，可为仿制药研发试验的开展及注册申报提供技术参考。其次，标记此类项目的药品，意味着药品监管部门对其品质的认可，在下游的招标采购及医保政策环节中也将具有明显优势，也同时为市场准入环节提供参考信息。

5. TE 代码： TE 代码是对该产品治疗等效性情况评估结果，相同类目及编码一致的药物之间具有可替代性。TE代码首字母代表药学等效药品是否具有治疗等效性，分为A、B两类。“A”类代表已证明治疗等效的药品在使用上可互相替换，“B”类代表

to show that they are bioequivalent. Reference Standard (RS) is the drug product that an applicant seeking approval of an generic drug must use in conducting an in vivo bioequivalence study required for the approval. First, publication of these two items in the Catalog clarifies the reference drugs for generic drugs and provide technical reference for their R&D, trials and registration application. Second, being designated as RLD or RS means the drug regulatory agency's recognition of their quality, gives them evident advantage in the downstream bidding procurement and medical insurance policy, and provides reference information for approval of market access.

5. TE Code: TE code represents the results of therapeutic equivalence evaluation on the drug. Drugs that are in a same category and have same TE code are interchangeable. From the initial alphabet of the TE code, one can tell whether pharmaceutically equivalent drugs have therapeutic equivalence. The initial alphabet can be A, or B. Type A means the drugs have been proved to be therapeutically equivalent, and thus interchangeable in use; Type B means the drugs are not therapeutically equivalent, and thus not interchangeable in use. The second alphabet represents dosage form and other evaluation information.

治疗不等效的药品，在使用上不可替换；第二个字母代表剂型及其他评价信息。

6. 上市许可持有人与生产商：取得药品上市许可及药品批准文号的申请人则成为药品上市许可持有人。目录中药品的上市许可持有人未必是药品的生产企业，其可委托合同企业生产药品，因此，将上市许可持有人及生产商信息分为两个项目公示。

此两项信息的公示，明确了仿制药参照对象（RLD 与 RS）的来源，为仿制药研发试验的开展及注册申报提供相关信息。另外，上市许可持有人是药品品质的第一责任人，对于此项信息的公示也相当于确立其责任人的地位，药品的安全性、有效性和质量可控性均由上市许可人对公众负责。

6. Marketing Authorization Holder and Manufacturer: the applicants who are granted drug marketing authorization and drug approval document number become a marketing authorization holder. A marketing authorization holder in the Catalog may not necessarily be the manufacturer, for the manufacturing of the drug can be entrusted to a CMO (contract manufacture organization). For this reason, both marketing authorization holder and manufacturer are included in the Catalog as two different items.

The publication of these two items clarifies the source of the reference drugs (RLD and RS) for generic drugs, and provides relevant information for the R&D, trials and registration application of generic drugs. In addition, as the marketing authorization holder is the entity (or person) of primary responsibility of drug quality, the publication of the item means the establishment of such status, and its accountability to the public for the safety, effectiveness and quality controllability of the drugs.

附表：

《目录集》网页版中主表“活性成分”栏会设置链接项，点击相应的“活性成分”会出现该药品附表信息。年度电子版中将会对附表信息进行单独公示。附表中主要分为以下两个模块。

1. 专利信息

Appendix:

On the Web version of the Catalog, a Web link will be set up in the “Active Ingredient” column in the master table. After the link is clicked, an appendix for a corresponding “active ingredient” will pop up. An annual electronic version will publish all the appendices independently. The appendix mainly has the following two modules.

1. Patent Information

有专利延长的，延长期包含在专利到期日中
Where there is an extension of the patent validity, the extended period is added to the patent expiration.

专利类型包括：化合物专利、产品专利、用途专利
The patent types: drug substance patent, drug product patent and method-of-use patent.

药品名称 Drug name	活性成分 Active ingredient	上市许可持有人 Marketing authorization holder	批准文号/注册证号 Approval No./ Registration Certificate No.	专利号 Patent No.	专利到期日 Patent Expiration	化合物专利 Drug Substance Patent	产品专利 Drug Product Patent	用途专利 Method-of-Use Patent
						DS	DP	U

专利类型：《目录集》公示的专利类型包括化合物专利、产品专利、用途专利三大类。化合物专利用“DS”表示；产品专利包括制剂专利和组合物专利，用“DP”表示；用途专利（保护药品适应症用途）用“U”表示，仿制药申请人可

Patent type: the Catalog publishes three patent types, namely, drug substance patent, drug product patent and method-of-use patent. Drug substance patent is represented by “DS”; drug product patent include formulation patent and composition patent, and is represented by “DP”; method-of-use patent (to protect indications of the drug) is represented by “U”. Generic drug applicants can file application for marketing approval

以提交部分适应症的上市申请，但针对不涉及的用途专利需要提交声明。

of part of the indications, but they must submit statements about method-of-use patents that are not involved.

专利到期日：专利到期日公示专利的最终有效期，有专利延长的，延长期包含在专利到期日中，不单独公示。

Patent expiration: updated validity period of the patent. Where there is an extension of the patent validity, the extended period is added to the patent expiration, and will not be published separately.

《目录集》中收载公示的专利，均指在中国国内已获授权的专利，不包括国外专利、申请中但尚未获得中国授权的专利、专利期已满的专利等情况。

The patents published in the Catalog are the patents authorized within China, and do not include foreign patents, patents pending but not yet authorized by Chinese authority, and expired patents.

2. 数据信息

2. Data Information

《目录集》公示的药品数据保护信息项目包括数据保护类型、数据保护到期日，如下表所示：

The drug data protection information items in the Catalog include data protection category, data protection expiration, as shown below:

类型包括：1类、2.1类、2.2类、2.3类、2.4类、5.1类、罕见药、儿科药、首访药

The categories include Class 1, Class 2.1, Class 2.2, Class 2.3, and Class 2.4 Class 5.1, orphan drugs, pediatric drug, first version generic drug

药品名称 Drug name	活性成分 Active ingredient	上市许可持有人 Marketing authorization holder	批准文号/注册证号 Approval No./ Registration Certificate No.	数据保护类型 Patent No.	数据保护到期日 Patent Expiration

数据保护类型：根据获得数据保护的不同药品种类进行划分，包括化学药品新注册分类划分的药品类型：注册 1 类的创新药、注册 2 类的改良型新药（2.1 类、2.2 类、2.3 类、2.4 类）及注册 5.1 类的进口原研，同时还包括罕见病用药（标识为“罕用药”）、儿童用药（标识为“儿科药”）、首仿药。

Data protection category: the drugs are classified by data protection for different categories, including the categories by the new classification system for registration of chemical drugs: registration Class 1 innovative drugs, registration Class 2 modified new drugs (Class 2.1, Class 2.2, Class 2.3 and Class 2.4) and registration Class 5.1 imported innovative drugs, as well as drugs for rare diseases (marked as “orphan drugs”), drugs for children (marked as “pediatric drugs”), and first version generic drugs.