



HATCH-WAXMAN AND BIOSIMILARS LITIGATION: 2017 YEAR IN REVIEW



Hatch-Waxman And Biosimilars Litigation: 2017 Year in Review

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This publication provides a brief overview of the Hatch-Waxman Act, a summary of the recently released FDA Draft Guidance, a general timeline of Hatch-Waxman litigation and summaries of some of the related decisions issued by the U.S. Supreme Court and Court of Appeals for the Federal Circuit in the year 2017.

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This Year-In-Review should not be construed as legal advice or a legal opinion on any specific facts or circumstances. The contents are intended for general information purposes only, and you are urged to consult a lawyer concerning your own situation and any specific legal questions you may have. Additionally, this Year-in-Review is not an offer to perform legal services nor establishes an attorney-client relationship.



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Our Practice

Seyfarth Shaw LLP's Intellectual Property ("IP") practice is a full-service partner that helps clients identify and secure their intellectual property rights, exploit them in the marketplace, and enforce or defend them anywhere they do business. We bring the full strength of the firm to bear by leveraging all groups to effectively and efficiently address our clients' problems. This allows us to offer clients more than just legal services — our nationwide team of practitioners offers a full spectrum of solutions for your intellectual property needs. Seyfarth Shaw's IP Solutions also embraces SeyfarthLean®, our fresh approach to thinking about and executing the delivery of legal services. This new way of delivering value provides maximum efficiency and predictability to our IP clients.

We offer complete support relating to pharmaceutical and biological drugs matters. Our team is experienced in the full scope of IP issues related to pharmaceutical product development and commercialization, from the initial counseling and pre-suit analysis to litigation under the Hatch-Waxman Act. We also serve as appellate counsel to clients even when other law firms served as trial counsel. Recognizing that appeals in the Federal Courts usually terminate with the intermediate court of appeals, we work to ensure that a client's victory is preserved on appeal or a negative verdict is overturned. Furthermore, we can assist clients in appeals to the U.S. Supreme Court either as counsel of record or as amicus counsel. Our firm also has significant experience in handling International Trade Commission (ITC) actions.

Our practice also includes experience in Food and Drug Law involving pharmaceuticals and medical devices. Seyfarth's Food and Drug Group represents clients whose businesses are regulated by the Food and Drug Administration (FDA) and the Federal Trade Commission (FTC). Our clients include companies that manufacture and distribute pharmaceuticals, bulk chemicals, vaccines, biologics, medical devices, and cosmetics, as well as food and dietary supplements. Our attorneys assist clients throughout the developmental, approval, production, and marketing stages of products to ensure that clients understand existing rules and regulations and the need to develop new strategies to address the regulatory environment. Our attorneys provide valuable counsel to FDA-regulated companies because we understand the regulatory and policy components of FDA as well as the relationship between FDA and Congress, and we know how to litigate matters concerning both the FDA and FTC.

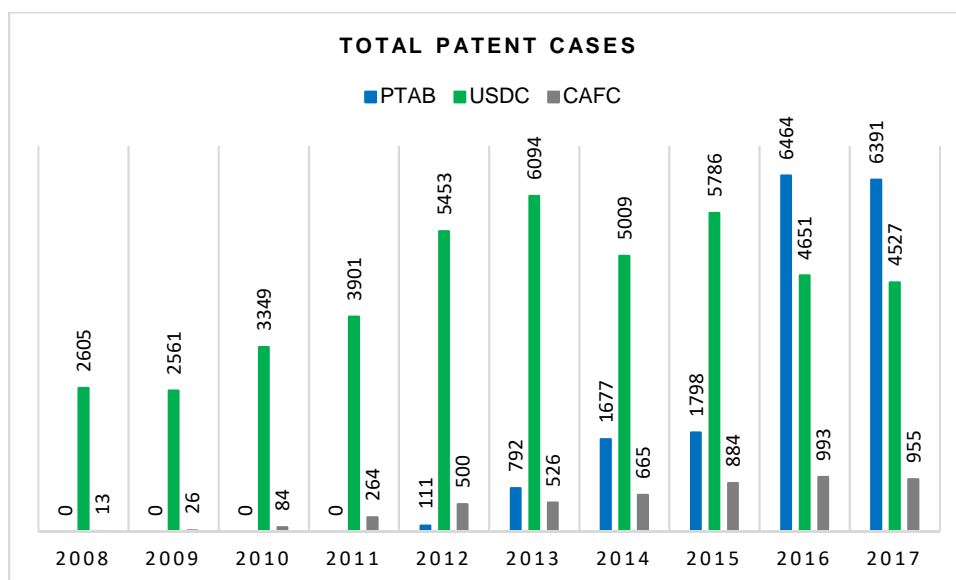
We further advise companies on the conduct of clinical studies on a national and international basis, on regulatory submissions and manufacturing as well as on FDA enforcement matters. Our attorneys have experience involving the labeling, marketing, and development of both pharmaceuticals and medical devices.

Seyfarth Shaw LLP represents a diverse roster of clients, from multi-national corporations to cutting-edge start-up companies. Whether we are acting as counselors, patent prosecutors or high-stakes litigators, Seyfarth is committed to obtaining our clients' desired results promptly and efficiently. We constantly



examine the strategy at each phase of the case until resolution. We also ensure that our cases and matters are staffed with the right team of lawyers and personnel, which offers clients both cost efficiency and a dedicated team backed by the strength and resources of one of the nation's premier law firms.

The number of new patent cases filed in the last ten years with the U.S. Patent Trial and Appeal Board (PTAB), the U.S. District Courts (USDC) and the Court of Appeals for the Federal Circuit (CAFC) are highlighted in the graph below. The District Court filings are consistent with the decreasing trend that can be seen during the last two to three years, the filings with the PTAB have risen significantly in the last 5 years, and the number of patent cases at the CAFC saw a steady increase from 2012 to 2016 and, more or less, remained stable over the last two years.



USDC patent case counts include cases addressing the infringement, validity, or enforceability of a U.S. patent that are pending in a U.S. district court or the Court of Federal Claims. This encompasses cases flagged with Nature of Suit ("NOS") 830 in the PACER system as well as other cases that are known to meet the above criteria. Transferred, consolidated, coordinated, or bifurcated actions may contribute to the number of cases counted.

PTAB cases include applications to the PTAB for inter partes reviews and post-grant reviews pursuant to 35 U.S.C. § 6(a)(4), as reported in the PTAB's Patent Review Processing System ("PRPS"). The term does not include proceedings conducted pursuant to 35 U.S.C. § 6(a)(1)-(3) such as appeals of adverse decisions of examiners, appeals of reexaminations, or derivation proceedings. Data obtained from Docket Navigator analytics.

Given the complex nature of IP litigation, may it be at the District Court or PTAB, it is important to work with a patent litigation team that has deep knowledge of the relevant technology and the law at issue. Today's rapid technological advances demand not only a thorough understanding of the complex technology, but also a meticulous application of the intellectual property law to protect the technology.



Our legal team includes Ph.D.'s that have expertise in organic chemistry, pharmacology, molecular biology, as well as drug synthesis, formulation and polymorphs. Our attorneys have represented some of the top innovator and generic drug companies in Hatch-Waxman litigation including in AIA proceedings, District Court trials and Federal Circuit appeals. When it comes to litigation or other complex projects, the Firm uses its award-winning and innovative SeyfarthLean® client service approach. Built upon years of experience in Lean Six Sigma process management, SeyfarthLean has a demonstrated success in improving communication, accountability, transparency and quality, while significantly reducing costs.

Hatch-Waxman Matters:

Our fully integrated approach to Hatch-Waxman litigation includes pre-suit investigations and opinions of counsel, Paragraph IV Certification/Notice Letter preparation, ANDA filings, trial, settlement, and appeal. We have represented both First to File clients as well as joint Abbreviated New Drug Application (ANDA) filers through joint defense arrangements.

From our deep bench, we are able to create legal teams including scientist-lawyers, transactional specialists, and experienced litigators, including those who served as law clerks at the Federal Circuit, which allows us to tailor our technology and legal strategy for each project and budget.

Our lawyers are recognized experts in the Hatch-Waxman Paragraph IV field, and have been involved in some of the leading-edge Paragraph IV litigations.

The Firm has experience with the statutory and regulatory pathways to getting products to the market. Whether it is on the brand or generic side, in pharmaceutical or medical devices, Seyfarth has experience in all aspects of product management. Our experience includes the following areas:

- All aspects of pharmaceutical regulation, from inception to end-of-product life cycle management, product selection, including intellectual property review, freedom to operate, non-infringement and invalidity opinions, regulatory affairs counseling, size/shape/color opinions, and litigation management.
- Strategies relating to NDA, 505(b)(2) "Paper NDA," ANDA applications, regulatory strategy and assistance in moving applications through the system.
- Drug repositioning, in legal issues related to new indications, new exclusivities, development of intellectual property estates to protect the repositioned drug, development of regulatory strategies to minimize competition, and counseling on legal strategies to maximize returns.
- Litigating exclusivity determinations relating to ANDA 180-day exclusivity decisions, NCE 5-year data exclusivity, NP/NDF 3-year exclusivity, and 7-year orphan drug exclusivity.
- Representing pharmaceutical and medical device clients with respect to licensing agreements, joint development agreements, manufacturing and supply contracts, fraud and abuse compliance,



group purchasing agreements, medical director agreements, and compliance with marketing standards.

- Regulatory strategies in medical device approvals, from counseling on strategies of 510(k) and PMA submissions, to humanitarian use exceptions, product recalls, product liability lawsuit defense, and corporate transactions.

Biologics and Biosimilars Matters:

The Biologics Price Competition and Innovation Act of 2009 (BPCIA) provides a legal framework for FDA approval of biosimilar and bio-interchangeable follow-on biologic products, as well as a paradigm for related patent litigation.

Our team of biotechnology attorneys routinely performs landscape searches and freedom to operate analyses with respect to target biologics for some of the world's top developers of Biosimilars. We understand both the value and potential threat represented not only by patents covering actual innovator biologics but also how to identify and handle the equally important patents related to biologic production, isolation, purification, storage, and administration.

Seyfarth lawyers have been involved in patent prosecution and litigation related to a variety of biotechnologies and have deep technical expertise in:

- Stem Cell Therapeutics and Screening Technologies
- Immuno-oncology and immunotherapies related to prophylactic and therapeutic cancer vaccines, CAR-T's and Checkpoint Blockades agonists
- Antibody technologies including fully human and humanized antibodies, antibody fusion proteins, phage display and bi-specific antibodies
- Nucleic Acid based drugs such as siRNA, miRNA, mRNA
- Gene Therapies, e.g., AAV, Lentiviral and MVA vectors
- Epigenetic and gene editing technologies such as CRISPR/Cas9

We also keep abreast of the rapidly evolving biosimilars legal landscape and frequently blog and speak at industry conferences on this topic and BPCIA strategies.

Members of our team have been General Counsel of biotechnology companies. As such, we understand the relevance of patent matters and weigh them in light of actual business strategies and if necessary address them through biosimilars patent litigation.



Seyfarth's Hatch-Waxman and Biosimilars Team

Seyfarth's Life Sciences team includes a multidisciplinary group of legal professionals with strong technical backgrounds in biology, biochemistry, organic chemistry, molecular biology, and pharmacology. Our team of experienced trial and appellate lawyers craft and execute comprehensive intellectual property strategies from initial drug development through trial and appeal.



Dean L. Fanelli, Ph.D. is a partner in the Intellectual Property Department of Seyfarth Shaw LLP's Washington, D.C. office where he co-chairs the firm's chemical & life science patent team. Dr. Fanelli's practice focuses on the chemical, pharmaceutical, and biotechnology industries and his expertise lies in patent portfolio creation and management, counseling, technology transactions, due diligence, opinion work, including drafting novelty, freedom-to-operate, and invalidity opinions, and *inter partes* review and post grant review proceedings. Dr. Fanelli also focuses his practice on Paragraph IV litigation strategies, Hatch-Waxman litigation, and biosimilar market assessment and litigation strategy. Dr. Fanelli's expertise is in pharmaceutical and chemical related technologies including those in the fields of new chemical entities, pharmaceutical formulations, polymers, diagnostics, and medical devices. Dr. Fanelli also has significant experience with the interplay between patent and FDA laws under the Hatch-Waxman Act, and he regularly handles IP issues attendant to mergers, acquisitions, and financing for life sciences companies as well as Paragraph IV ANDA analyses and associated Hatch-Waxman Paragraph IV litigation.

Dr. Fanelli graduated from The George Washington University Law School. He received his Ph.D. in Organic Chemistry from Temple University and a B.S. in Chemistry from Villanova University.



Thomas A. Haag, Ph.D. is a partner in the Intellectual Property Department of Seyfarth Shaw LLP's Washington, D.C. office where he co-chairs the firm's chemical & life science patent team. His practice focuses on pharmaceutical and biotechnology patent counseling, due diligence and licensing/transactional matters; as well as Hatch-Waxman litigation and patent opinion work. He has extensive experience strategically managing large patent portfolios, drafting and negotiating biomedical patent licenses, asset purchase agreements and joint-development agreements. Dr. Haag's technical expertise is in molecular



biology related technologies including those in the fields of immuno-oncology, cancer/infectious disease vaccines, nucleic acid-based therapeutics, stem-cell therapeutics, gene editing and therapy, epigenetics, transgenic plants, next generation sequencing (NGS), biologics and biosimilars.

Dr. Haag graduated from The George Washington University Law School with honors. He received his B.S. in Biology and Ph.D. in Molecular, Cell & Developmental Biology from UCLA.



Jamaica P. Szeliga is a partner in the Litigation Department of Seyfarth Shaw LLP's Washington, D.C. office. Ms. Szeliga's practice focuses primarily on intellectual property litigation relating to pharmaceutical, biotechnology, and chemical matters. She also litigates patent disputes involving other technologies, including medical devices, mechanical inventions, communications, and high-tech products, and further has significant experience in design patent litigation. Ms. Szeliga's practice also extends to counseling on the Biologics Price Competition and Innovation Act (the "BPCIA"), patent prosecution, opinion drafting, and providing advice relating to intellectual property corporate transactions and trademark. Part of her practice is devoted to small entities, providing advice on ways to protect innovative ideas and procuring patents and trademarks for such entities.

Ms. Szeliga graduated magna cum laude from Harvard Law School, received her B.S. degree in Chemistry, with a minor in Biology, with distinction, from Stanford University, and clerked at the Court of Appeals for the Federal Circuit.



Vincent Smolczynski is an associate in the Intellectual Property Practice Group of Seyfarth Shaw LLP's Chicago office. He practices in the areas of complex civil litigation, patent litigation, and a variety of intellectual property matters. He also handles patent and trademark prosecution. Mr. Smolczynski's experience spans a wide range of technical areas, including pharmaceutical, chemical, biomedical devices, electronic devices, and business methods. Mr. Smolczynski is registered to practice before the United States Patent and Trademark Office. Before joining Seyfarth Shaw, Mr. Smolczynski was a law clerk in the Intellectual Property Practice Group, assisting in various aspects of patent, trademark, and copyright matters. Mr. Smolczynski also served as a judicial extern for the Honorable Warren D. Wolfson in the Illinois Appellate Court, First District.



Mr. Smolczynski graduated magna cum laude from Chicago-Kent College of Law, and received his B.A., with honors, from The University of Delaware.



Maria L. Maebius is counsel in the Intellectual Property Department of Seyfarth Shaw LLP's Washington, D.C. office. Ms. Maebius focuses on a wide variety of biotechnological and chemical inventions, including modified nucleic acids, sequencing methods, stem cell differentiation, pharmaceutical delivery systems including transduced autologous cells, and immunological systems. Throughout her career as a patent attorney, she has worked on both sides of patents, including the preparation and prosecution of patent applications as well as reviewing and analyzing issued patents in developing litigation strategies or opinions relating thereto. She has experience in the management of patent portfolios of a variety of companies, including small start-ups, and medium to large biopharmaceutical companies. She has experience developing offensive and defensive patenting strategies, performing intellectual property audits to assess strengths and weakness of existing intellectual property, and preparing and prosecuting foreign and domestic patent applications. Additionally, she is experienced in preparing non-infringement and invalidity opinions and post-issuance patent proceedings, including reexaminations, reissue, and interference proceedings.

Ms. Maebius graduated from The George Washington University Law School, and received her B.S. degree in Biology from The Ohio State University.



Parithosh K. Tungaturthi, Ph.D. is a patent agent in the Intellectual Property Practice Group of Seyfarth Shaw LLP's Washington, D.C. office. Dr. Tungaturthi's practice focuses on the pharmaceutical and biotechnology industries and his expertise lies in the areas of patent portfolio creation and management, IP strategy development, patent landscape analysis, product lifecycle management, due diligence, and opinion work, including drafting novelty, freedom-to-operate, and invalidity opinions. Dr. Tungaturthi's practice also includes support of Paragraph IV, Hatch-Waxman litigation, and FDA Regulatory and Compliance matters. Dr. Tungaturthi has significant expertise in a broad range of disciplines including pharmaceuticals, active pharmaceutical ingredients, formulations, drug delivery, organic and inorganic chemistry, molecular biology, antibody engineering and therapeutics, cancer immunology, molecular diagnostics, genetic engineering, stem cell technology, vaccines, medical devices, plant breeding and plant biotechnology. He also has



experience in nanotechnology, polymer chemistry, biomaterial, and biofuels.

Dr. Tungaturthi earned his J.D. from The University of Baltimore School of Law. He received his Ph.D. in Molecular Biology and Immunology from Thomas Jefferson University and a B.S. in Microbiology, with a minor in Chemistry, from The Louisiana State University..



Robert Terzoli, Jr. is a member of the Intellectual Property Department of Seyfarth Shaw LLP's Washington, D.C. office. Mr. Terzoli has over five years of IP Experience, including conducting invalidity and freedom to operate searches, assisting with patent prosecution and trademark prosecution matters, working in-house as an intern and private equity company monetizing IP assets.

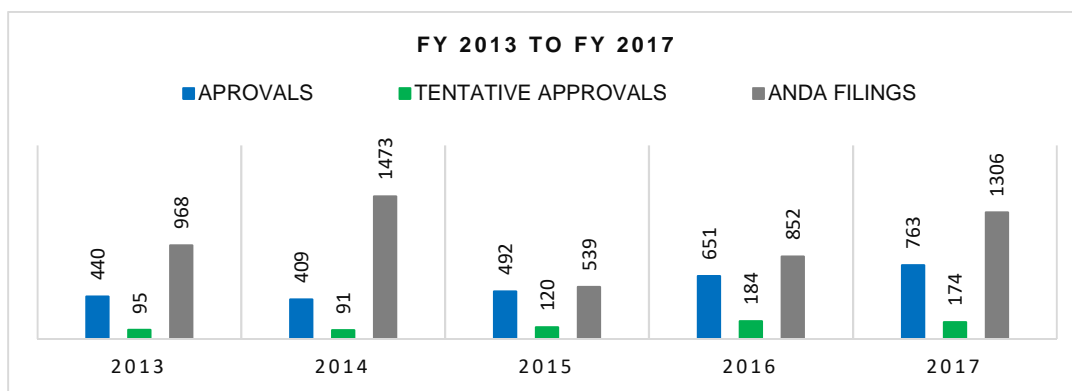
Mr. Terzoli earned his J.D., with a concentration in Intellectual Property, from The Georgetown University Law Center and received his B.A. in History from UCLA.



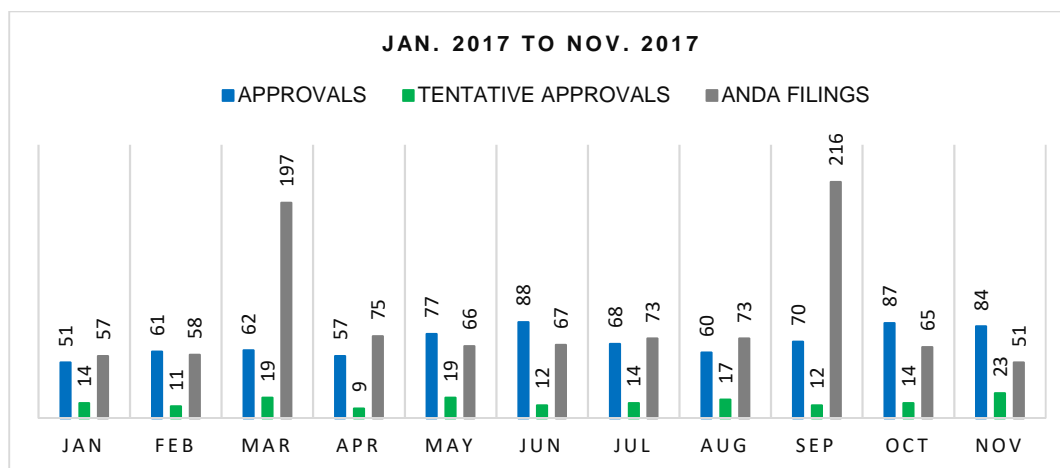
Hatch-Waxman Act

Formerly known as Drug Price and Patent Term Restoration Act of 1984, Hatch-Waxman Act ("Act") was adopted by Congress in 1984 to expedite and streamline both generic drug approvals and patent litigation involving generic drugs. Prior to its adoption, the federal food and drug law contained no separate provisions addressing generic versions of drugs that had previously been approved. No streamlined Food and Drug Administration (FDA) approval process existed for generic drugs.

The Act established an expedited pathway for generic drug companies to obtain FDA approval for their products. Generic drug manufacturers may file an "Abbreviated New Drug Application" (ANDA) with the FDA for market approval of a pharmaceutical if the active ingredient of the generic drug is the bioequivalent of the approved drug. The number of ANDA filings and approvals* in the last five years, for example, is representative of the increasing number of ANDA filings at the FDA by generic drug manufacturers.



A review of the monthly filings for the 2017 calendar year is highlighted below. The respective numbers for the month of December 2017 are 78, 20 and 131.



*Source: Activities Report of the Generic Drug Program published by the FDA.



Through amendments to both patent law and the food and drug law, the Act intends to facilitate the marketing of generic pharmaceuticals while providing brand firms with incentives to innovate. It requires brand firms to identify to the public any patents that cover their approved products, listed in the "Orange Book." A generic drug manufacturer, when seeking marketing approval from the FDA, must address any Orange Book-listed patents. This was done by delaying marketing of generic products until the relevant patents expire, or by asserting that the patents are invalid, not infringed or unenforceable. This latter assertion constitutes a statutory act of infringement and exposes the generic drug company to a patent infringement suit.

A generic drug company submitting either an ANDA or a Section 505(b)(2) hybrid application must make one of the following four certifications as to each patent listed in the Orange Book for a Reference Listed Drug (RLD): (i) Paragraph I certification that no relevant patent is listed in the Orange Book; (ii) Paragraph II certification that the listed patent has expired; (iii) Paragraph III certification that the listed patent, plus any other exclusivity, will expire before the requested approval; and (iv) Paragraph IV certification that the listed patent is invalid or will not be infringed by the commercialization of the generic drug and hence unenforceable. A generic drug company also may make a statement that the listed patent does not claim a use for which the applicant is seeking approval, which is known as a Section viii Statement (or "carve out"). A generic drug company can make both a Paragraph IV certification and a Section viii Statement, for example, when the patent covers both the product and a method of use.

The Act also contains several provisions directed toward its goal of increasing public access to generic drugs by decreasing the time and cost of seeking FDA approval, including (i) the ability for the generic drug manufacturers to file ANDAs, (ii) a 180-day exclusivity period for the first-filed generic drug product, (iii) a safe-harbor from infringement when performing testing for regulatory review, (iv) the ability to file declaratory judgment actions to resolve potential patent disputes, and (v) the ability to file a counterclaim to a patent infringement action seeking to de-list patents from the Orange Book.

With the passage of the Hatch-Waxman Amendments, the Federal Food, Drug and Cosmetic Act (FD&C Act) included different routes for obtaining approval of two broad categories of drug applications: new drug applications (NDAs) under section 505(b)(1) and abbreviated new drug applications (ANDAs) under section 505(j).

On October 13, 2017, the FDA released a draft guidance, a copy of which can be found [here](#), to assist applicants in determining which one of the abbreviated approval pathways under the Federal Food, Drug and Cosmetic Act (FD&C Act) is appropriate for the submission of a particular type of marketing application to the FDA.



FDA Draft Guidance

The guidance expanded on the different pathways for obtaining approval of new drug applications (NDAs) under section 505(b)(1) and abbreviated new drug applications (ANDAs) under section 505(b)(1), in addition to discussing the regulatory and scientific considerations for determining whether to file an ANDA or a 505(b)(2) Application. Below is a summary of the draft guidance.

Abbreviated Approval Pathways:

1. Stand-Alone NDA Application:

- Is an application submitted under section 505(b)(1) and approved under section 505(c) of the FD&C Act, and contains “full reports of investigations of safety and effectiveness that were conducted by or for the applicant or for which the applicant has a right of reference or use.”

The guidance did not discuss stand-alone NDAs. Rather, it focused on those applications that can be submitted as ANDAs under section 505(j) of the FD&C Act, petitioned ANDAs under 505(j)(2)(c) of the FD&C Act, or NDAs pursuant to section 505(b)(2) of the FD&C Act.

2. 505(b)(2) Application:

- Is an NDA submitted under § 505(b)(1) and approved under § 505(c) of the FD&C Act, and contains “full reports of investigations of safety and effectiveness, where at least some of the information required for approval comes from studies not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use.”
- May rely on the FDA’s safety and/or efficacy findings for a listed drug only to the extent that the proposed product of the § 505(b)(2) application shares characteristics in common with the listed drug.

NOTE: A drug product in a 505(b)(2) application will not necessarily be treated as bioequivalent or therapeutically equivalent to the listed drug(s) upon which it relies. The applicant is expected to establish a bridge (e.g., by using comparative bioavailability data) between the proposed drug product and each listed drug upon which the applicant seeks to rely to demonstrate that reliance on the listed drug is scientifically justified.

- Must include sufficient data to support the differences, to the extent that the listed drug and the proposed § 505(b)(2) drug differ.

3. ANDAs:

- Submitted and approved under section 505(j) of the FD&C Act.



- Must establish that the proposed generic product (1) is the same as the Reference Listed Drug (RLD) with respect to the active ingredient(s), dosage form, route of administration, strength, previously approved conditions of use, and labeling (with permissible differences), and (2) is bioequivalent to the RLD.
 - May not be submitted if studies are necessary to establish the safety and effectiveness of the proposed product because it relies on FDA's finding of safety and effectiveness for an RLD.
4. Petitioned ANDAs:
- Submitted and approved under § 505(j) of the FD&C Act.
 - A type of ANDA for a drug product that differs from the RLD in its dosage form, route of administration, strength, or active ingredient (in a product with more than one active ingredient), and for which, in response to a petition under § 505(j)(2)(c) of the FD&C Act, the FDA has determined that safety and efficacy studies are not necessary for the proposed drug product.

Regulatory Considerations for ANDAs and 505(b)(2) Applications:

1. Duplicates:
- The FDA generally will refuse a 505(b)(2) application for a drug that is a duplicate of a listed drug and eligible for approval under § 505(j) of the FD&C Act.
 - However, if FDA approves a duplicate product after a § 505(b)(2) application is submitted, but before the § 505(b)(2) application is approved, the 505(b)(2) application would remain eligible for approval.
2. Petitioned ANDAs:
- An applicant may submit a petition under § 505(j)(2)(c) of the FD&C Act (a suitability petition) to FDA requesting permission to submit an ANDA for a generic drug product that differs from an RLD in its route of administration, dosage form, or strength or that has one different active ingredient in a fixed-combination drug product.
 - A suitability petition (a petition that requests permission to submit an ANDA for a drug product that is not the same as a listed drug with respect to certain characteristics) will generally be approved unless (1) the FDA determines that the safety and effectiveness of the proposed change from the RLD cannot be adequately evaluated without data from investigations that exceed what may be required for an ANDA, or (2) the petition is for a drug product for which a pharmaceutical equivalent has been approved in an NDA,



including, for example, a 505(b)(2) application that referenced the same listed drug named in the suitability petition.

3. Bundling:

- An applicant may seek approval for multiple drug products containing the same active ingredient(s) when some of these products would qualify for approval under the section 505(j) pathway and some would qualify for approval under the 505(b)(2) pathway.
- FDA has permitted an applicant to submit a single “bundled” 505(b)(2) application for all such multiple drug products.

Scientific Considerations for ANDAs and § 505(b)(2) Applications:

1. Limited Confirmatory Studies:

- If the safety or effectiveness of a proposed drug product must be established by investigations, then an ANDA application is not appropriate.
- However, data from limited confirmatory testing to show that the characteristics that make the proposed drug product different from the listed drug do not alter its safety and effectiveness may be submitted in an ANDA.

2. Active Ingredient Sameness Evaluation:

- “If the active ingredient in an applicant’s proposed drug product cannot be demonstrated to be the same as the active ingredient in the RLD by using the information and data that may be submitted in connection with an ANDA, the drug product should not be submitted for approval in an ANDA.”
- In situations where current limitations of scientific understanding and technology may preclude approval of an ANDA with the data permitted for submission in an ANDA, FDA may be able to receive, review and approve ANDAs as the scientific understanding and technology evolve.

3. Intentional Differences Between the Proposed Drug Product and an RLD:

a. Differences in Formulation:

- An ANDA must include information regarding the identity and quantity of all active and inactive ingredients of the proposed drug product and a characterization of any permitted differences between the formulations of the proposed drug product and the RLD, along with a justification demonstrating that the safety and effectiveness of the proposed drug product is not adversely



affected by these differences. If the proposed drug product contains changes to its formulation that are not permissible in an ANDA, the applicant should consider submitting a 505(b)(2) application.

b. Differences in Bioequivalence and/or Bioavailability Differences:

- An ANDA must contain information to show that the proposed drug product is bioequivalent to the RLD, such as (i) the rate and extent of absorption of the proposed drug do not show a significant difference from that of the RLD when administered at the same molar dose of the therapeutic ingredient under similar experimental conditions in either a single dose or multiple doses.

NOTE: “[w]here there is an intentional difference in rate (e.g., in certain extended-release dosage forms), certain pharmaceutical equivalents or alternatives may be considered bioequivalent if there is no significant difference in the extent to which the active ingredient or moiety from each product becomes available at the site of drug action.”

- An application for a proposed drug product where the rate and/or extent of absorption exceed, or are otherwise different from, the 505(j) standards for bioequivalence may be submitted under the 505(b)(2) pathway and may require studies to show the safety and efficacy of the proposed product at the different rate and/or extent of delivery. However, the FDA generally will not accept a 505(b)(2) application for a drug product where the only difference from a listed drug is that (1) the extent to, or (2) the rate at which its active ingredient is absorbed or otherwise made available at the site of action is less than that of the RLD.

c. Differences in Conditions of Use:

- A § 505(j) application must include a statement that the conditions of use prescribed, recommended, or suggested in the labeling for the proposed drug product have been previously approved for the RLD. The application cannot be approved as an ANDA if the proposed drug product has added a new indication. However, the FDA will not refuse to approve an ANDA whose proposed labeling excludes conditions of use approved for the RLD because of patents or exclusivity.

d. Other Differences:

- Drug products that differ considerably from the RLD are generally not candidates for the § 505(j) pathway. In assessing whether differences between a proposed generic drug product and the RLD would necessitate additional data or



information to establish the safety or efficacy of the proposed drug product, FDA will examine the individual differences between the products and the combined effects of those differences.

The purpose of the Guidance, as stated by the FDA Commissioner Dr. Scott Gottlieb, is to provide “greater clarity and direction to prospective drug applicants ... to help reduce the cost and barriers to bringing new generic medicines to patients.”

Hatch-Waxman Litigation

Patent litigation may be triggered under the Hatch-Waxman Act when the generic drug manufacturer files a Paragraph IV (P-IV) certification. Under 35 U.S.C. § 271(e)(2),

It shall be an act of infringement to submit ... an application ... for a drug claimed in a patent or the use of which is claimed in a patent ... if the purpose of such submission is to obtain approval ... to engage in the commercial manufacture, use, or sale of a drug ... claimed in a patent or the use of which is claimed in a patent before the expiration of such patent.

As such, the filing of an application (ANDA) with a P-IV certification is a statutory act of infringement because the filing indicates that the generic company intends to engage in the commercial manufacture, use, or sale of a drug claimed in a patent before the expiration of such patent.

Within 20 days after the FDA accepts the ANDA for filing, the generic company is required to provide a Notice Letter to the patentee highlighting the existence of the ANDA. The Notice Letter must provide a detailed statement of the generic drug applicant’s basis for believing that the Orange Book-listed patents ostensibly covering the drug at issue, are invalid or not infringed. (21 U.S.C. § 355(b)(3) and 21 U.S.C. § 355(j)(2)(B)). The patentee has 45 days from this notice to file a lawsuit for patent infringement against the ANDA applicant. An ANDA applicant may bring a declaratory judgment action against an NDA holder (patentee) if the NDA holder does not institute a patent infringement lawsuit within the required 45-day time period (21 U.S.C. § 355(c)(3)(D)(i)(aa), 21 U.S.C. § 355(j) (5)(C)(i)(I)(aa) and 35 U.S.C. § 271(e)(5)).

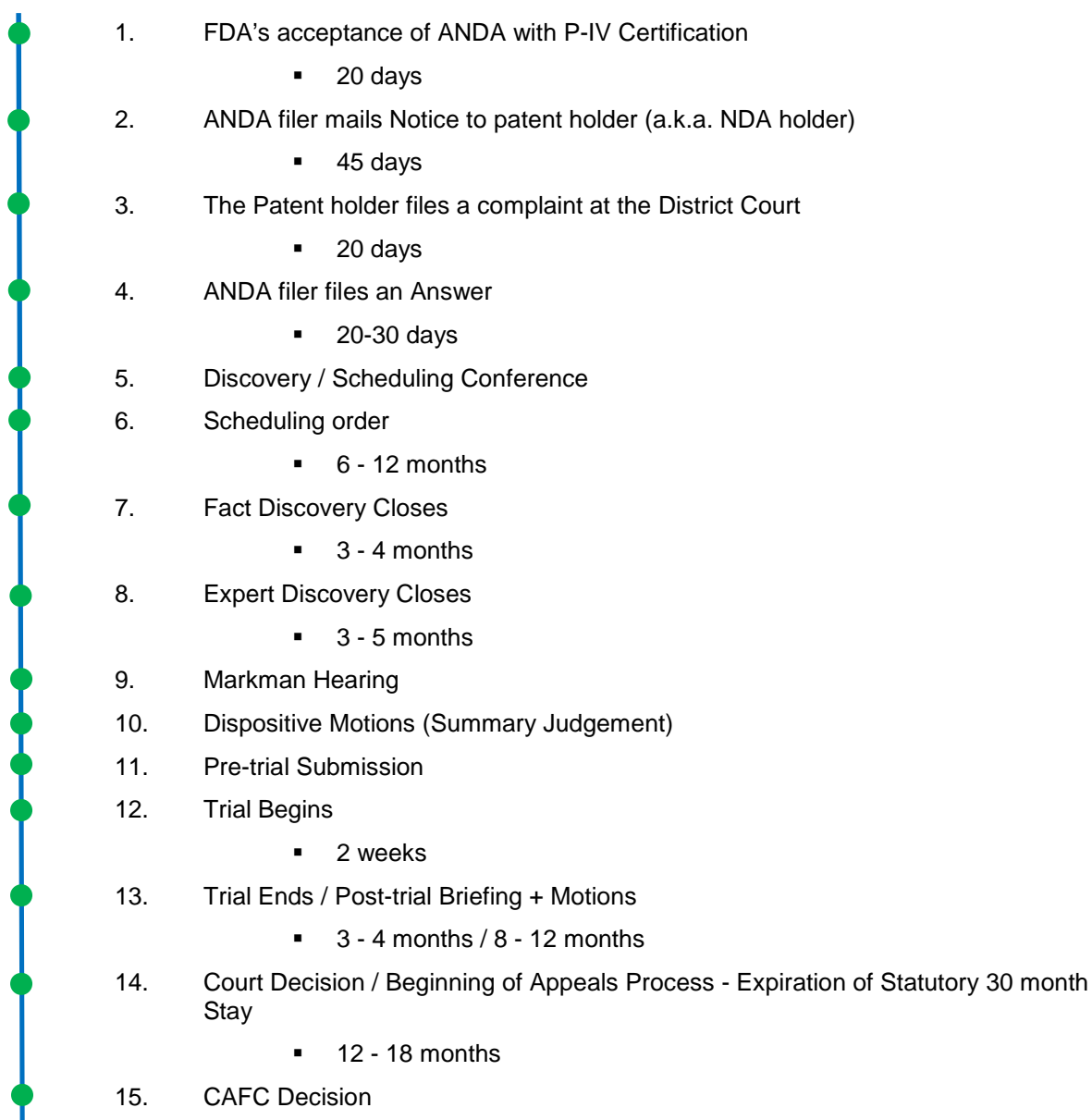
If the patentee files a lawsuit within the 45-day period, such lawsuit triggers an automatic 30-month stay of any approval of the ANDA by the FDA. The 30-month stay is meant to (i) allow parallel resolution of the FDA’s review of the ANDA and patent case, and (ii) to provide certainty for the branded company because the generic drug company cannot launch the drug during this period while there is ongoing litigation. If a court issues a final order determining that the patent is invalid, unenforceable or not infringed, the 30-month stay terminates (21 U.S.C. § 355(c)(3)(C) and 21 U.S.C. § 355(j)(5)(B)(iii)).

Under the Hatch-Waxman Act, a “first ANDA filer” has the potential to receive a 180-day exclusivity period during which the FDA is not allowed to approve any other ANDAs for the same pharmaceutical drug (21 U.S.C. § 355(j)(5)(B)(iv)). The term “first ANDA filer” refers to all of the applicants who submit substantially complete ANDAs with P-IV certifications on the same day that is earlier than any other



ANDA filing (*21 U.S.C. § 355(j)(5)(B)(iv)(II)(bb)*). Multiple ANDA applicants may hold exclusivity concurrently on the same drug if they each apply on the same day and file P-IV certifications concerning at least one of the Orange Book-listed patents for that drug (*21 U.S.C. § 355(j)(5)(B)(iv)* and *21 C.F.R. § 314.107(c)(1)*). The first filer(s) may forfeit the 180-day exclusivity under some circumstances (*21 U.S.C. § 355(j)(5)(D)* and *21 U.S.C. § 355(q)(1)(G)*).

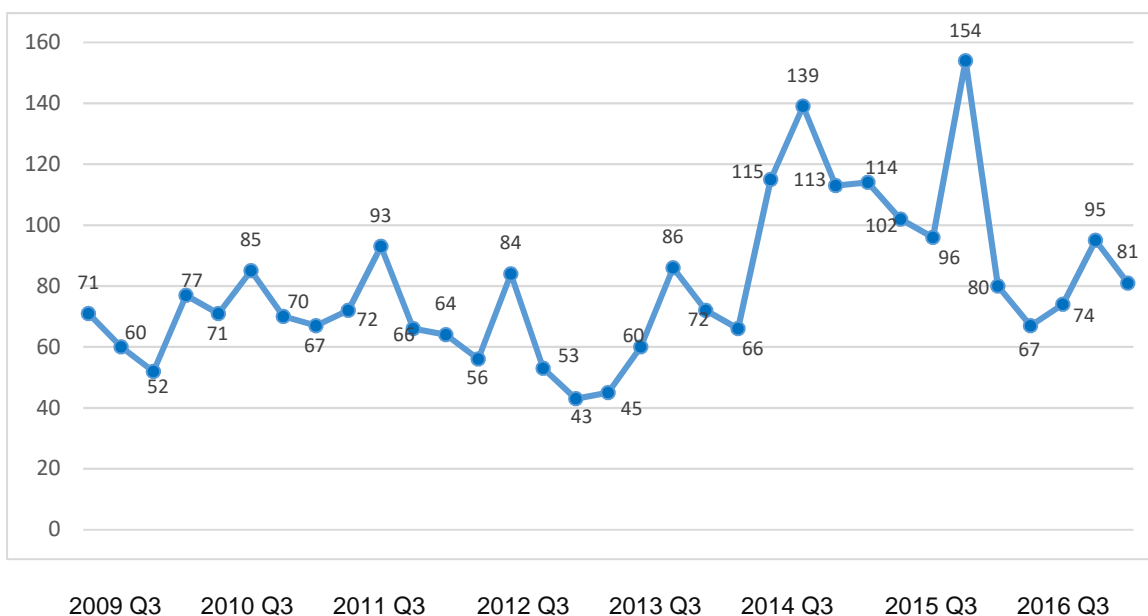
Once the ANDA litigation is filed, it proceeds through the standard stages as of other patent cases. This includes claims construction, in which the district court interprets the scope of the claims, fact and expert discovery, and trial. In general, the timeline for Hatch-Waxman litigation is as follows:





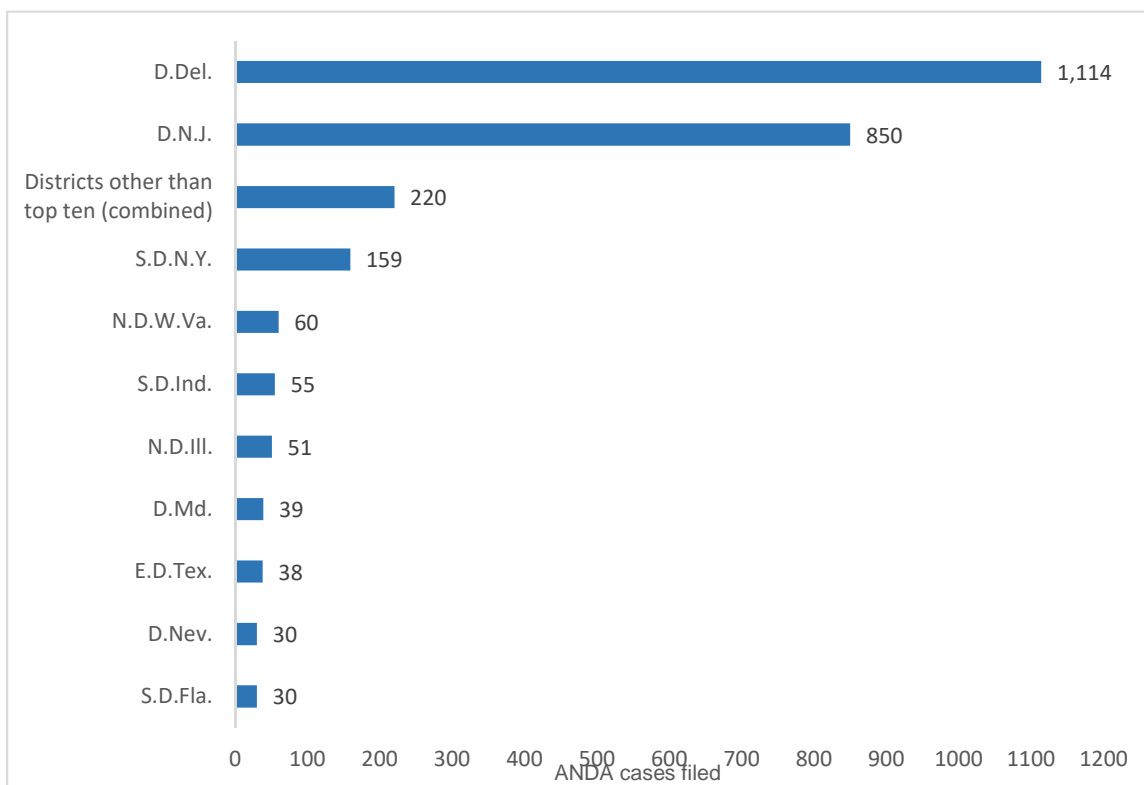
As reported in the *Hatch-Waxman ANDA Litigation Report 2017* by Lex Machina, a total of 2,646 cases were filed in U.S. district courts between January 1, 2009, and March 31, 2017, relating to new drug applications before the FDA pursuant to the Hatch-Waxman Act. These cases involved the assertion of 1,879 unique patents and about 600 applications. Of these cases, fewer than 3% were based on hybrid new drug applications under 505(b)(2) (often called “paper NDAs”); the vast majority were based on ANDAs. Some interesting data published in the above-mentioned report includes:

ANDA cases filed 2009 to 2017Q1, by quarter*



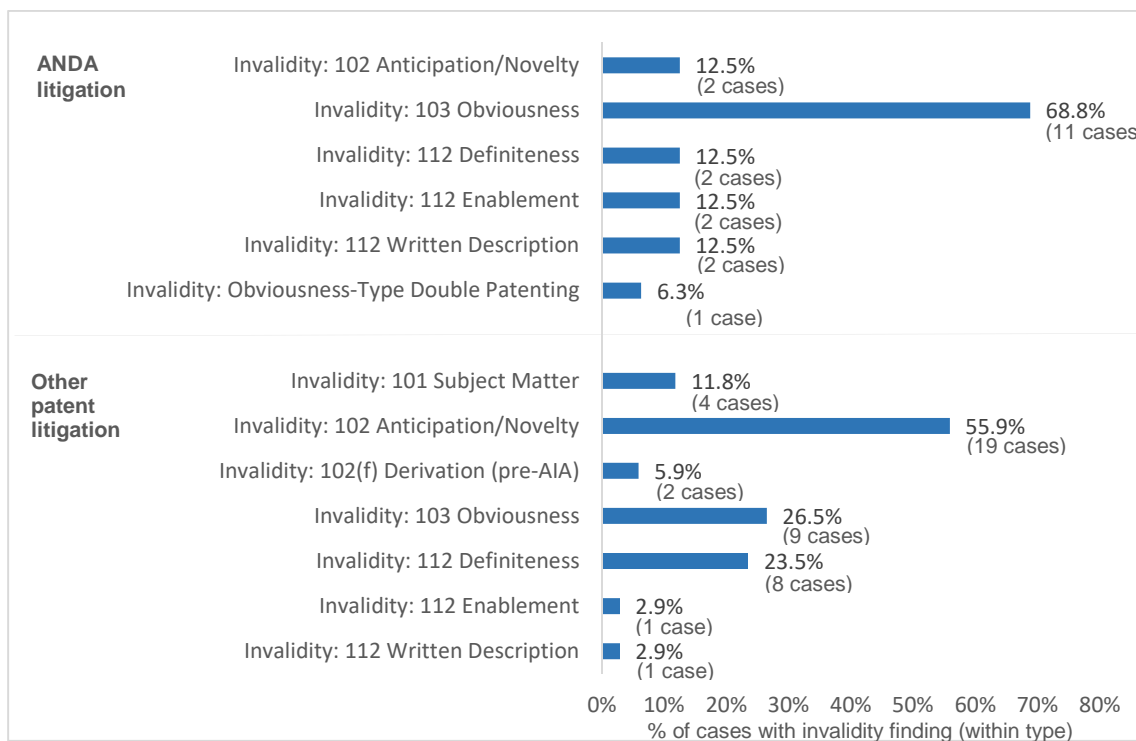


Top districts by cases filed 2009 to 2017Q1*

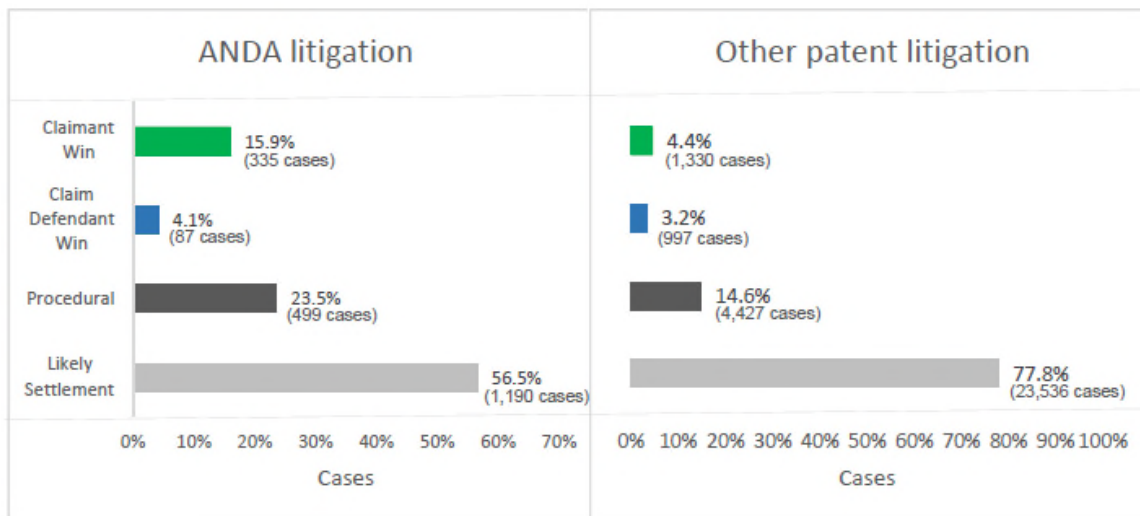




Invalidity bases, by findings of invalidity in cases filed and terminated 2009 to 2017Q1*



Resolution of cases filed and terminated 2009 to 2017Q1*



*Source: Hatch-Waxman ANDA Litigation Report 2017 by Lex Machina



Supreme Court Of The United States

The year 2017 was a busy year for the Supreme Court of The United States (S. Ct.) with respect to Intellectual Property related matters. The S. Ct. was called upon to decide, among others things, whether the supply of a single component of a multicomponent invention for manufacture abroad gives rise to liability under § 271(f)(1) of the Patent Act, in addition to interpreting the specialized patent venue statute, 28 U.S.C. § 1400 (b). The year ended with the S. Ct. hearing oral arguments in what is popularly noted as the Court's "blockbuster patent case," where the issue is whether *inter partes* review (IPR) violates the Constitution by "extinguishing private property rights through a non-Article III forum without a jury."

2017 was also marked by the Supreme Court deciding its first case related to Biologics Price Competition and Innovation Act ("BPCIA"). The Court was called upon to review an issue regarding the notice requirements of BPCIA. Although, the Court provided clear guidance that biosimilar applicants may provide 180-day notice of commercial marketing prior to the FDA's approval of the application, it left some questions for the CAFC to decide. In particular, the Court held that the Federal law does not provide for an injunction requiring a biosimilar applicant to start the so called "patent dance" by providing its application and manufacturing information to the reference product's sponsor under 42 U.S.C. § 262(l)(2)(A) and remanded the case to CAFC for further proceedings. On remand, the CAFC ultimately held that BPCIA preempts any state law remedies for failure to comply with § 262(l)(2)(A) and concluded that applying state law would create a conflict with the careful balance struck by Congress in establishing the BPCIA.

A summary of relevant Supreme Court cases is set forth below.

Life Technologies Corp v. Promega Corp. (S. Ct. February 22, 2017)

This case involved Promega Corporation's patent directed to a toolkit, made up of five individual components, used in genetic testing. Promega licensed the patent to Life Technologies for the manufacture and sale of a kit for use in certain licensed law enforcement fields. Life Technologies manufactured four components of the kit in the United Kingdom, while the fifth component, a Taq polymerase enzyme, was manufactured in the United States. The Taq polymerase was then shipped to the United Kingdom where the kit was assembled with the four other components.

Promega sued Life Technologies for infringing the patents by selling the kits to clinical and research markets, i.e., areas that were outside its licensed fields of use. Promega alleged that the shipping of the Taq polymerase from the United States to the United Kingdom manufacturing facilities triggered liability under §271(f)(1), which prohibits the supply "from the United States [of] all or a substantial portion of the components of a patented invention," for combination abroad.



Section 271(f)(1)'s full text reads:

"Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer."

A federal jury found Life Technologies liable for infringement, but the District Court held that there could be no infringement because Promega's evidence at trial "showed at most that one component of all of the accused products, [the Taq] polymerase, was supplied from the United States." Thus, the Court granted Life Tech's motion for judgment as a matter of law, holding that "all or a substantial portion," as recited in §271(f)(1), did not encompass the single component made in the U.S.

On appeal, the Federal Circuit reinstated the jury verdict, explaining that "there are circumstances in which a party may be liable under §271(f)(1) for supplying or causing to be supplied a single component for combination outside the United States." The Federal Circuit concluded that the dictionary definition of "substantial" is "important" or "essential," which it read to suggest that a single important component can be a "substantial portion of the components" of a patented invention. The Federal Circuit further credited the expert testimony that the single component that the defendant supplied from the United States was the "main" and "major" component of the patent claims. Thus, the Federal Circuit reversed District Court's holding that a single important component could constitute a "substantial portion" under §271(f)(1) and the Taq polymerase was such a component, and reinstated the jury's verdict finding Life Technologies liable for infringement.

The Supreme Court disagreed holding that the supply of a single component of a multicomponent invention for manufacture abroad does not give rise to liability under Section 271(f)(1) of the Patent Act, which prohibits the supply from the United States of "all or a substantial portion of the components of a patented invention" for combination abroad.

The Court began its analysis by answering "whether §271(f)(2)'s requirement of 'a substantial portion' of the components of a patented invention refers to a quantitative or qualitative measurement." Promega argued that a "substantial portion" should be interpreted as not only the number of components, but also their qualitative importance to the invention overall. The Court rejected this argument.

In determining whether the term "substantial portion" is to be given qualitative or quantitative meaning, the Court looked to the text of the statute and held that the term "substantial portion" has a quantitative meaning because the terms in §271(f)(1) neighboring "substantially," such as "all" and "portion," are quantitative. The Court then found that the term "substantial portion" was intended to mean more than one component because §271(f)(1) consistently refers to "components," for example "all or a substantial portion of the components of a patented invention" where "such components are uncombined." Thus, the Court held that a single component would not be considered a "substantial portion" of a multi-component



invention as defined in §271(f)(1). The Court also pointed to §271(f)(2), which explicitly refers to a specific single "component" as further evidence that the term "components" in §271(f)(1) was intended to mean more than one. Therefore, Life Technologies was not liable because it only produced one of the five components required for the kits in the U.S.

Justice Alito (with Justice Thomas joining), in his concurring, but separate opinion, noted that the majority opinion should not be read "to suggest that any number greater than one is sufficient" for liability under Section 271(f)(1). "In other words, today's opinion establishes that more than one component is necessary but does not address how much more."

COMMENTS:

It is not unusual that a decision, particularly by the S. Ct., sometimes tends to pose more questions than it answers. The decision in *Life Technologies Corp v. Promega Corp.* is certainly among the top in 2017, wherein the S. Ct. had to address the issue of a U.S. manufacturer's liability for exporting components later incorporated into an infringing product. While addressing a specific dispute pertaining to diagnostic kits between the parties, the Court raised many questions without providing any guidance as to the answers for those questions. The Court held that the term "substantial portion" in Section 271(f)(1) has a quantitative, not a qualitative, meaning. More specifically, the court held that the phrase "substantial portion" in the statute does not cover the supply of a single component of a multicomponent invention. One of the questions this decision raises is: what if the invention is a two component invention? Would the supply of a single component of a two component invention still be outside the scope of the statute? Given the continuing growth in international commerce, it is fair to predict that the courts might have to address this issue sooner rather than later.

TC Heartland LLC v. Kraft Foods Group Brands LLC (S. Ct. May 22, 2017)

TC Heartland is an Indiana corporation with its headquarters in Indiana, that makes flavored drinks. Kraft Foods, a Delaware corporation, sued TC Heartland in Delaware for patent infringement. Although TC Heartland is not incorporated in Delaware and has no regular business presence there, it shipped a small number of products into Delaware. TC Heartland moved to dismiss or transfer the case to Indiana, arguing that venue was improper in Delaware, citing the U.S. Supreme Court's *Fourco* case (*Fourco Glass Co. v. Transmirra Products Corp.*, 353 U. S. 222, 226 (1957)), in which the Court held that a domestic corporation "resides" only in its state of incorporation.

The patent venue statute, 28 U.S.C. § 1400(b), states that

"[a]ny civil action for patent infringement may be brought in the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business."



The District Court, relying on the Federal Circuit's decision in *VE Holding Corp. v. Johnson Gas Appliance Co.* (917 F.2d 1574 (1990)), found specific personal jurisdiction based on TC Heartland's shipment of the allegedly infringing products to the state, and dismissed the venue challenge.

VE Holding dealt with the relationship between the patent venue statute, 28 U.S.C. § 1400(b), and the general venue statute, 28 U.S.C. § 1391.

The general venue statute, 28 U.S.C. § 1391(c), states that

"[a]n entity with the capacity to sue and be sued in its common name under applicable law, whether or not incorporated, shall be deemed to reside, if a defendant, in any judicial district in which such defendant is subject to the court's personal jurisdiction with respect to the civil action in question and, if a plaintiff, only in the judicial district in which it maintains its principal place of business."

The residency provision of the general venue statute, § 1391(c), as recodified in 1948, provided that a corporation "resides," "for venue purposes," in any district it does business in or is licensed to do business in. As such, a dispute arose regarding whether the definition of corporate residency as in § 1391(c) should be read into the phrase "where the defendant resides" of § 1400(b). The Supreme Court addressed this in *Fourco*, where it held that § 1400(b) alone governed venue for patent infringement and that § 1391(c) was not applicable. The Court held that "residency" under § 1400(b) is synonymous with "domicile," which for corporate defendants means the state of incorporation.

Here, after the District Court determined that jurisdiction and venue were proper, TC Heartland petitioned the Federal Circuit seeking a writ of mandamus for dismissal or transfer, but the court denied the petition. Judge Moore (joined by Senior Judge Linn and Judge Wallach), writing for a unanimous panel, held that Federal Circuit precedent foreclosed TC Heartland's venue and personal jurisdiction arguments. The panel found that nothing in the subsequent amendments (in 1988 and 2011) by Congress to § 1391(c) provided any basis for reconsidering *VE Holding's* interpretation of the venue statutes. That is, nothing in the 2011 amendments insulated § 1400(b) from § 1391(c)'s definition of corporate residence. Judge Moore observed that "the patent venue statute itself does not define corporate residence and thus there is no statutory 'law' that supplies an alternate definition of corporate residence in lieu of § 1391(c)'s default definition."

The Supreme Court granted certiorari and concluded that the two amendments to the general venue statute made in 1988 and 2011 did not change the interpretation of "resides" in the patent venue statute. Thus, *Fourco* remained good law, and the Federal Circuit erred when it concluded to the contrary in its 1990 decision in *VE Holding*.

The Supreme Court's unanimous opinion describes the history of the venue statutes starting with the first venue act of 1789. In 1897, Congress first enacted a special patent venue statute and the Court had been called upon to interpret it in a couple of cases, including *Fourco*. In that decision, the Supreme Court held that the term "resides" under the patent venue statute limited venue to a company's state of incorporation,



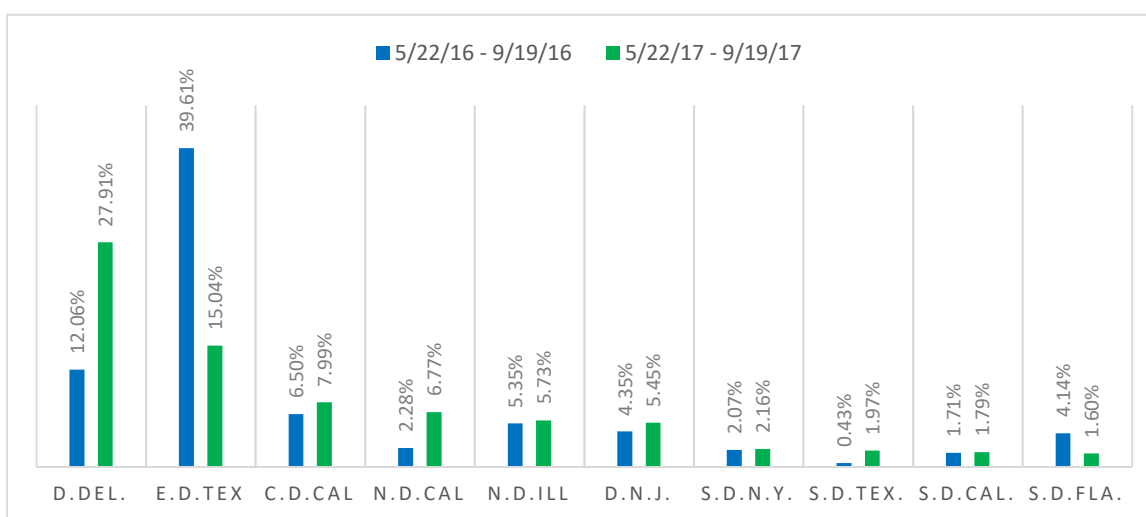
and was not subject to interpretation under a broader definition of “resides” found in the general venue statute, 28 U.S.C. § 1391(c). Congress amended the general venue statute (§1391(c)) to provide a definition of “resides” “for the purposes of this chapter.” Relying on this language, in 1990 the Federal Circuit held in *VE Holding* that the 1988 amendments to the general venue statute impacted the patent venue statute because it also includes the term “resides” and is in the chapter with the general venue statute.

The Supreme Court disagreed. The Supreme Court noted that while Congress had been changing the general venue statute, it had not changed the patent venue statute from the version that it analyzed in its 1957 *Fourco* decision. Finally, the more recent version of the general venue statute eliminated the “for the purposes of this chapter” language and states that it does not apply when “otherwise provided by law.” Because of this, the statutory scheme expressly recognized that certain exceptions to the general venue statute were possible. And, §1400(b) was just such an exception. The Supreme Court therefore reversed.

COMMENTS:

The decision in *TC Heartland* has proved to be a game-changer in patent filings. According to a recently published report, a substantial difference was noted in the patent infringement filings from May 2017 to September 2017 compared to the same time period in 2016 in at least two of the top ten District Courts. The patent filings in the Eastern District of Texas, which is considered to be a plaintiff-friendly jurisdiction, decreased from 39.61% in 2016 to 15.04% in 2017 while the district of Delaware saw a rise in the filings, which is not surprising given that most companies are either incorporated, or operate, in Delaware.

Top 10 District Courts: Pre- And Post-TC Heartland**



** Source: Report Published By Fried, Frank, Harris, Shriver & Jacobson LLP



Sandoz Inc. v. Amgen Inc. (S. Ct. June 12, 2017)

This case involved filgrastim product, Neupogen®, marketed by Amgen, which purports to hold patents on methods of manufacturing and using filgrastim. Sandoz sought FDA approval to market a biosimilar filgrastim product under the brand name Zarxio®, with Neupogen® as the reference product. A day after the FDA informed Sandoz that its application had been accepted for review, Sandoz notified Amgen that it had submitted an application and that it intended to market Zarxio® immediately upon receiving FDA approval. Sandoz later informed Amgen that it did not intend to provide Amgen with its application or manufacturing information.

Amgen sued Sandoz for patent infringement and also asserted that Sandoz engaged in "unlawful" conduct in violation of California's unfair competition law. This latter claim was predicated on two alleged violations of the Biologics Price Competition and Innovation Act (BPCIA). Sandoz's failure to provide its application and manufacturing information under §262(l)(2)(A); and its provision of notice of commercial marketing under §262(l)(8)(A) prior to obtaining licensure from the FDA. Amgen sought injunctions to enforce both BPCIA requirements. Sandoz counterclaimed for declaratory judgment that the asserted patent was invalid and not infringed, and that it had not violated the BPCIA.

While the case was pending in the District Court (*Amgen Inc. v. Sandoz Inc.*, Case No. 14-cv-04741-RS, 2015 WL 1264756 (N.D. Cal. Mar. 19, 2015)), the FDA licensed Zarxio®, and Sandoz provided Amgen a further notice of commercial marketing. The District Court subsequently granted partial judgment on the pleadings to Sandoz on its BPCIA counterclaims and dismissed Amgen's unfair competition claims with prejudice. Amgen appealed to the Federal Circuit.

A divided Federal Circuit affirmed in part, vacated in part, and remanded. First, the court affirmed the dismissal of Amgen's state-law claim based on Sandoz's alleged violation of §262(l)(2)(A). It held that Sandoz did not violate the BPCIA in failing to disclose its application and manufacturing information. It further held that the remedies contained in the BPCIA are the exclusive remedies for an applicant's failure to comply with §262(l)(2)(A). Second, the Federal Circuit held that an applicant may provide effective notice of commercial marketing only after the FDA has licensed the biosimilar. Accordingly, the 180-day clock began after Sandoz's second, post licensure, notice. The Federal Circuit further concluded that the notice requirement is mandatory and extended its injunction pending appeal to bar Sandoz from marketing Zarxio® until 180 days after the date it provided its second notice.

The Supreme Court reversed the Federal Circuit and explicitly determined that applicants can provide notice before or after FDA approval. According to the Supreme Court, the pertinent statutory language in the BPCIA has two separate requirements: (1) that the biosimilar application is "licensed" before it is marketed; and (2) that the biosimilar applicant gives notice 180 days before marketing occurs. The Federal Circuit thus erred in requiring licensure before notice could be given.



The second issue tackled by the Supreme Court relates to the so-called “patent dance” provisions of the BPCIA. The “patent dance” is a statutory scheme through which the biosimilar applicant and the brand manufacturer exchange information and legal theories until deciding upon which patents to litigate first. Sandoz refused to provide the biosimilar application and manufacturing information contemplated in the dance, leading Amgen to seek an injunction under federal and state law to compel participation. The district court and Federal Circuit determined that an injunction was not available.

On cross-appeal, the Supreme Court agreed with the Federal Circuit that injunctions under federal law are not permitted, but remanded the case to review state law remedies. According to the Court, the BPCIA allows the brand company to immediately bring a declaratory judgment action against the biosimilar applicant if they do not provide their application and manufacturing information. This remedy deprives the applicant of the ability to control the scope of the litigation (i.e., which patents to litigate) and the timing of the suit. The Supreme Court determined that the remedy of immediate suit was the only federal remedy contemplated for an applicant’s failure to dance. The Supreme Court remanded the case to address whether non-compliance with the BPCIA can be considered a violation of California law entitling Amgen to an injunction and/or whether the BPCIA’s remedy pre-empts any state law remedies.

Oil States Energy Services LLC v. Greene’s Energy Group, LLC (S. Ct. Decision Pending)

Oil States filed a patent infringement suit in the Eastern District of Texas alleging that Greene’s Energy violated the U.S. Patent 6,179,053 (issued to a predecessor company of Oil States). Claim 1 describes a tool used to anchor the mandrel of a wellhead in an operative position. Claim 22 explains the method used to fasten the mandrel in an operative position. Greene’s Energy, shortly after the District Court issued its claim construction ruling and before the one-year deadline for filing, petitioned the Patent Trial and Appeal Board (PTAB) for *inter partes* review (IPR) of Claims 1 and 22 of the patent. The IPR proceeding before the PTAB proceeded simultaneously with the lawsuit in the District Court.

PTAB instituted the IPR and subsequently held that Oil States’ patent was invalid. During the proceeding, Oil States moved to amend the claims, but the PTAB denied the motion to amend. Oil States appealed to the Federal Circuit arguing not only that the Board erred in its conclusions, but also that IPR violated Article III of the Constitution and the Seventh Amendment.

During the Oil States appeal, the Federal Circuit issued its decision in *MCM Portfolio LLC v. Hewlett-Packard Co.*, which answered the constitutionality questions raised in Oil States. The *MCM* decision held that “patent rights are public rights, and their validity susceptible to review by an administrative agency, the Seventh Amendment poses no barrier to agency adjudication without a jury.” Accordingly, the Federal Circuit held that IPR proceedings do not violate constitutional protections. It noted that an IPR does not violate Article III because “[t]he patent right ‘derives from an extensive federal regulatory scheme,’ . . . and is created by federal law.” Based on the above reasoning, the Federal Circuit rejected Oil States’ constitutional argument and summarily affirmed the PTAB’s decision without a written opinion. Oil States’



filed a petition for *en banc* review, but PTAB denied the petition, following which Oil States petitioned the Supreme Court for a writ of certiorari.

The Oil States petition to the Supreme Court presented three questions for review: (i) whether IPR proceedings are constitutional; (ii) whether the amendment process in IPR conflicts with the Court's decision in *Cuozzo Speed Technologies v. Lee*; and (iii) whether the "broadest reasonable interpretation" of patent claims requires applying traditional claim construction principles. The Supreme Court agreed to review the issue of whether IPR proceedings are constitutional.

One of the main questions before the Supreme Court in determining whether IPRs are constitutional is whether patent rights are considered to be private property rights or public rights. If the Supreme Court finds that the patent rights are public rights, it would likely conclude that IPR proceedings are constitutional. If, however, the Supreme Court finds patent rights are private property rights, then it could deem IPR proceedings as they currently exist to be unconstitutional.

Oil States, in its petition for certiorari, relied on the Supreme Court's decision in *McCormick Harvesting Machine Co. v. C. Aultman & Co.*, which held that patent rights are private property rights "and as such [are] entitled to the same legal protection as other property." In addition, Oil States relied on *McCormick* to support its argument that the proper authority to cancel or set aside a patent is vested in the courts and not with the PTAB. Oil States pointed to the statement "[t]he only authority competent to set a patent aside, or to annul it, or to correct it for any reason whatever, is vested in the courts of the United States, and not in the department which issued the patent" in *McCormick*.

The Supreme Court heard oral arguments on November 27, 2017 but has not yet issued a final decision. While it is difficult to predict the outcome of Supreme Court cases based only on the oral argument transcript, a review of the transcript in *Oil States* indicates that the Supreme Court is split on what to do with IPR proceedings.

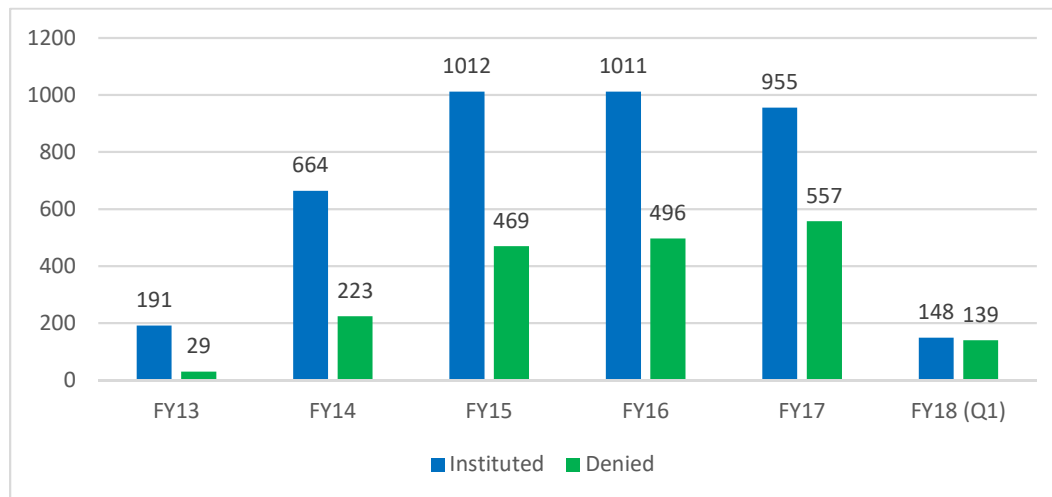
The Supreme Court is expected to issue its decision no later than June 2018.

COMMENTS:

The year started with predictions as to whether or not the S. Ct. will consider the issue of whether IPR violates the U.S. Constitution by extinguishing private property rights through a non-Article III forum without a jury, and ended with predictions regarding the outcome of the oral arguments heard by the Court in *Oil States* in November. Although faced with the issue of constitutionality of IPRs before, the fact that S. Ct. decided to hear the issue now is not surprising given the rapidly increasing number of IPRs being filed with the PTAB and a slow decrease in the number of IPR petitions being instituted (coupled with increase in the number of IPR petitions being denied).

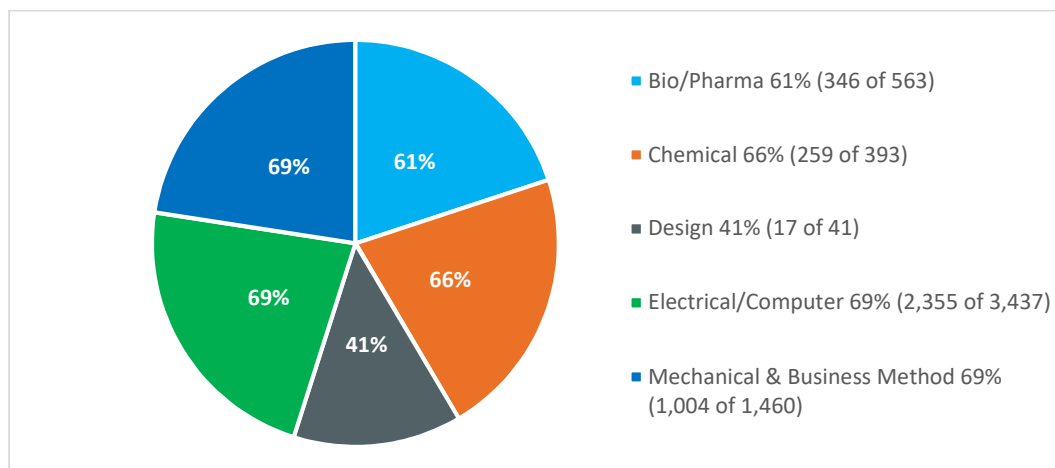


Institution Rates From FY13 to FY18 (Source: PTAB)



The number of post-grant proceedings filed in the technologies related to Electrical/Computer & Mechanical Arts are much higher than those filed in the Bio/Pharma and Chemical technology areas. However, the rate at which the petitions were instituted is similar amongst those technology areas.

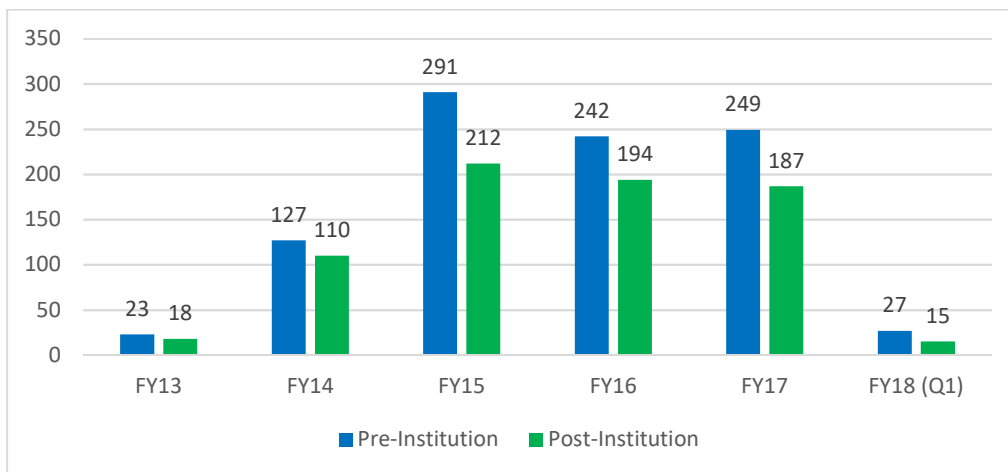
Institution Rates From 09/16/2012 to 11/30/2017 (Source: PTAB)



Also, the post- and pre-institution settlement rates have remained the same for the last two years, which are noticeably lower as compared to two years prior to that and significantly lower (at least for post-settlements) compared to five years ago.



Settlements: Pre- And Post-Institution (Source: PTAB)



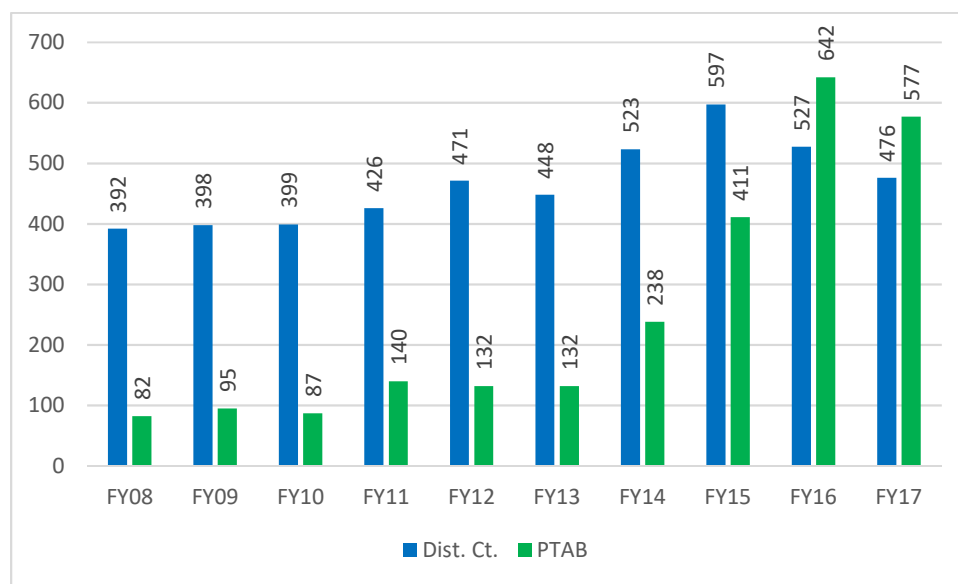
The Court's decision in *Oil States* could have a major impact on the patent world, and is clearly the center of attention as the new year begins.



Court Of Appeals For The Federal Circuit

In the fiscal year 2017, the Court of Appeals for the Federal Circuit (Fed. Cir.), as usual, had the majority (69%) of its docket filled with intellectual property cases. The Fed. Cir.'s docket consisted of 29% patent infringement appeals from the U.S. District Courts and 33% appeals from the U.S. Patent and Trademark Office. A review of filings over the last 10 years reveals that the number of appeals filed with the Fed. Cir. resulting from the PTAB have risen sharply in the last 4 years. The data also shows that number of appeals resulting from the PTAB has surpassed the number of filings of patent infringement appeals from the U.S. District Courts.

Appeals Filed From FY 2008 to FY 2017



The increase in the appeals resulting from PTAB is consistent with the number of growing petitions for post-grant proceedings filed with the PTAB. It will be interesting to see how the trend will change once the Supreme Court issues its final written decision in *Oil States*.

Summarized below are some of the notable Hatch-Waxman related decisions from the Federal Circuit.

Eli Lilly and Co. v. Teva Parenteral Medicines, Inc. (Fed. Cir. January 12, 2017)

This case involved Eli Lilly's U.S. Patent No. 7,772,209, which is directed to a method of administering a chemotherapy drug pemetrexed disodium, with vitamins, which is marketed under the trade name Alimta®. The claims of Eli Lilly's patent were directed to methods for administering pemetrexed disodium (sold by Eli Lilly as Alimta®) after pretreatment with folic acid and vitamin B12.



Teva had filed an ANDA for a generic version of Alimta® that would be administered in a manner consistent with the method claims of Eli Lilly's patent. Eli Lilly subsequently filed a consolidated action against Teva for induced infringement alleging that Teva's generic drug and product labeling would infringe methods of treatment claimed by its patent. Both Eli Lilly and Teva agreed that the steps of the claims are not all provided by a single actor. The step of administering folic acid is done by patients, whereas the other steps are administered by physicians. The District Court held, applying the law from Akamai, that while there was no single actor performing the infringement, the acts of the patients can be attributed to the physicians, and thus there exists sufficient evidence for a finding of induced infringement.

The Federal Circuit, relying on its earlier decision in Akamai, where the Court found that performance of divided steps is attributable to a single entity when that entity (1) "conditions participation in an activity or receipt of a benefit" upon others' performance of one or more claimed steps, and (2) "establishes the manner or timing of that performance," found that there was direct infringement sufficient to support a finding of induced infringement, even though performance of the claimed steps required the actions of physicians and patients.

The Federal Circuit found that the receipt of the treatment method is necessarily conditioned on folic acid administration, as this will reduce the toxicities of one of the drugs. Further, an expert argued that the drugs would not be safe without also taking folic acid. This was enough to satisfy the first prong of the analysis. The Federal Circuit indicated that the product labeling, which instructs physicians to tell patients to take a particular amount of folic acid for a particular duration, satisfies the second prong. Thus, direct infringement was identified. Further, the labeling and warnings confirm specific intent and action to induce infringement, and thus, Teva's distribution of the drug with the product labeling would induce infringement of the asserted claims of the patent.

With respect to the invalidity issues, the opinion first considered Teva's indefiniteness contentions (i.e., the term "vitamin B12" was indefinite, because there were various species of the vitamin). The Federal Circuit noted that the question of how the skilled worker would understand the term is a question of fact reviewable for clear error, and agreed with the District Court [that the term meant cyanocobalamin based on expert testimony]. Despite some apparent inconsistency in claim language, based on how the term was used in the claims, the Federal Circuit agreed that the skilled worker would have understood the meaning of the term.

With respect to obviousness, the Federal Circuit agreed with the District Court in that the skilled artisan would not have been motivated to "(1) use folic acid pretreatment with pemetrexed; (2) use vitamin B12 pretreatment with pemetrexed; or (3) use the claimed doses and schedules of folic acid and vitamin B12 pretreatments with pemetrexed" based on the prior art. The Federal Circuit focused on the fact that the art did not show any correlation between pemetrexed toxicity and vitamin B12 deficiency (although there was evidence of a correlation with folate deficiency). The art did not provide any evidence of B12 being routinely administered in cancer treatment. Further, expert testimony from both sides established that nothing in the art showed that vitamin B12 deficiencies were associated with cancer treatment with



antifolate compounds. In affirming the District Court's finding that the claims of the '209 patent were not invalid under the obviousness-type double patenting doctrine, the Federal Circuit made similar determinations.

Cumberland Pharm. Inc. v. Mylan Institutional LLC (Fed. Cir. January 26, 2017)

This case involved Cumberland's patent (U.S. Patent 8,399,445) covering its drug Acetadote®, an acetylcysteine composition substantially free of chelating agents, used as an antidote for acetaminophen overdose.

Mylan filed an ANDA to market its own formulation of acetylcysteine and Cumberland sued for infringement. Mylan stipulated to infringement but asserted invalidity on two grounds: (i) derivation of the claimed invention from someone at the FDA and (ii) obviousness. The District Court ruling in favor of Cumberland found that Mylan did not prove: (i) that anyone at the FDA conceived of the claimed invention before the patent-named inventor; and (ii) that there was a reasonable expectation that the claimed formulations, without any chelating agents, would succeed. Mylan appealed and the Federal Circuit affirmed.

Mylan's allegation of derivation arose from Cumberland's FDA application. The FDA had requested information on "scientific and regulatory justification for the inclusion of edetate as a component in the drug product," to which Cumberland responded with a letter explaining that EDTA was included to stabilize the formulation. Cumberland further stated that not including EDTA would raise safety and efficacy issues. Following FDA approval of the combination product (acetylcysteine + EDTA), in accordance with the FDA's suggestion, Cumberland performed a stability study which showed that EDTA was unnecessary to avoid oxidative degradation which lead to Cumberland's patented formulations.

The Federal Circuit found that the FDA's request for justification as to the inclusion of edetate in the acetylcysteine composition does not rise to the level of conception required for derivation. Instead, the required complete conception had to include the specific idea to remove edetate from the composition and not add another chelating agent. Mylan did not show that there was a prior conception of the claimed subject matter by an FDA representative and communication of the conception to Cumberland.

The Federal Circuit found that Cumberland's patent was nonobvious because the prior art provided neither a motivation to remove edetate nor a reasonable expectation of success. Mylan alleged that Cumberland's patent was obvious over Cumberland's edetate-containing acetylcysteine composition in view of several references that allegedly disclosed removal of edetate from acetylcysteine formulations. However, the references did not disclose that removal of edetate would lead to a stable composition, which was expressly claimed in Cumberland's patent. In fact, the prior art taught that edetate or another chelating agent was necessary to stabilize the formulation. Thus, the Federal Circuit found that a skilled artisan would not have reasonably expected a chelating-agent-free acetylcysteine composition to be stable.



Shire Development, LLC v. Watson Pharms., Inc. (Fed. Cir. February 10, 2017)

This case involved Shire's patent (U.S. Patent No. 6,773,720) to a controlled release oral composition of mesalamine, marketed as Lialda®, which is used to treat inflammatory bowel diseases. The patented compositions were characterized as having 85-90% by weight of the API and provide a "sustained and uniform manner" by which the mesalamine API is released as the drug passes through the gut. Among other things, Claim 1 of Shire's patent requires (i) an inner lipophilic matrix consisting of the substances selected from the group consisting of the lipophilic substances recited therein, and (ii) an outer hydrophilic matrix consisting of compounds selected from the group consisting of the hydrophilic compounds recited therein.

Shire sued Watson for infringement for filing an ANDA with the FDA seeking permission to market a generic version of Shire's patented drug, Lialda®. In Watson's drug, the alleged outer hydrophilic matrix contains a lipophilic substance. The District Court, during a first trial on merits, construed "inner lipophilic matrix" to mean "a matrix including at least one lipophilic excipient, where the matrix is located within one or more substances," and "outer hydrophilic matrix" to mean "a matrix of at least one hydrophilic excipient, where the matrix is located outside the inner lipophilic matrix." The District Court reasoned that the lipophilic substance fell within the exception announced in *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321 (Fed Cir. 2004) (infringement of a "consisting" claim is not avoided by including a component that is unrelated to the invention). Hence, the District Court concluded, because the lipophilic substance was unrelated to the invention, Watson infringed Shire's claims.

On appeal, the Federal Circuit reversed. It held that the District Court's construction of the terms was "impermissibly broad," and disagreed how the District Court construed "lipophilic matrix" to mean "a matrix including at least one lipophilic excipient." Shire petitioned for *certiorari* and the Supreme Court vacated this decision and remanded the Federal Circuit for reconsideration in view of the Court's intervening decision in *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*

In *Teva Pharmaceuticals* the Court set forth the standard of Federal Circuit review of District Courts' claim construction, wherein questions of law are to be reviewed de novo but factual determinations of a District Court should be reviewed for clear error. The Federal Circuit, without deviating from its earlier decision, remanded the case to the District Court for trial according to the Federal Circuit's claim construction. The District Court again found infringement under 35 U.S.C. § 271(e)(2).

The Federal Circuit held that Watson's proposed generic version of Shire's Lialda® did not infringe Shire's patent reasoning that (i) Shire's claim to an outer layer "consisting of" a list of specific elements excludes any additional element(s) for infringement purposes, and hence (ii) the presence of an element, not recited in the claim, in the outer layer of Watson's proposed generic version created non-infringement.

With respect to the Norian exception, the Federal Circuit disagreed with the District Court's interpretation stating that the "unrelated" exception is a "rare exception" to the general rule that "consisting of" closes



the group. The Federal Circuit stated that *Norian* did not impose a requirement that related components were only those that "advance or are intended to advance" the inventive elements recited in a Markush group, and explained that such a requirement would be equivalent to construing "consisting of" in the Markush language to have a scope of "comprising" or "consisting essentially of." The Federal Circuit reasoned that, in the instant case, the existence of magnesium stearate would certainly impact the invention by placing a lipophilic compound in an area designed to be hydrophilic and hence, the *Norian* exception does not apply. The Federal Circuit also found that the presence of Examples in the specification is not sufficient to overcome the "exceptionally strong presumption" that "consisting of" is closed. The case was remanded to the District Court to enter judgment of non-infringement.

Allergan, Inc. v. Sandoz, Inc. (Fed. Cir. March 17, 2017)

This case involved Allergan's patents (U.S. Patent Nos. 7,388,029, 7,351,404, 8,263,054, 8,038,988, 8,101,161 and 8,926,953) directed to a topical solution to treat hair loss or reduction using bimatoprost, marketed as Latisse®.

In a 2010 complaint filed in a North Carolina District Court, Allergan accused Sandoz of infringing the '029 and '404 patents (Allergan I). Allergan prevailed and Sandoz appealed. The Federal Circuit in 2014 reversed, holding the '404 and '029 patent claims invalid as obvious (Allergan II). While the appeal in Allergan II was pending, Allergan filed a new lawsuit against Sandoz, asserting the '054 and '161 patents. The litigation was stayed pending the outcome of Allergan I. Following the Federal Circuit's reversal, Apotex sought and won judgment on the pleadings (Allergan III). Allergan moved to voluntarily dismiss its claims against Apotex and the other defendants, which was granted.

During the pendency of the two suits, Allergan's application for the '953 patent was pending before an examiner at the USPTO. While the application for the '953 patent was pending and after the '404 patent had been invalidated as obvious by the court in Allergan II, Allergan submitted ex parte declarations to the Examiner related to two prior art references used to invalidate the '404 patent. The testimony was intended to show that one of the inventors of both the '404 patent and the then-pending application for the '953 patent, Dr. Amanda VanDenburgh, was an author of the prior art references, such that the references were no longer prior art under 35 U.S.C. § 102(a) post-AIA.

The '953 patent was issued by the USPTO, and shortly thereafter, Allergan filed the instant complaint, in which Sandoz was accused of infringing claims 1-26. In a second amended complaint, Allergan asserted only claims 8, 23 and 26 of the '953 patent. Sandoz moved to dismiss pursuant to Fed. R. Civ. P. 12(b)(6), on grounds of collateral estoppel. The motion was granted by the District Court reasoning that the '953 patent claims "substantially the same subject matter" as the invalidated '054, '161 and '988 patents (Allergan IV). The judge did not consider the ex parte testimony presented to the USPTO by Allergan, which led Allergan to file the underlying appeal.



The Federal Circuit found that the District Court properly dismissed the case on collateral estoppel grounds. The Federal Circuit reasoned that Sandoz met all five requirements set forth in *Collins v. Pond Creek Mining Co.*, 468 F.3d 213, 217–18 (4th Cir. 2006) thus establishing the applicability of collateral estoppel. Allergan argued that the asserted claims of the '953 patent differ from the related patents, which did not address whether it would have been obvious to use bimatoprost to increase eyelash darkness. The Federal Circuit disagreed and found that the District Court properly held that any differences between the claims did not “materially alter the question of invalidity” because “the previously litigated patents include several additional statements that demonstrate that increasing eyelash darkness was one attribute of their inventions.”

The Federal Circuit ruled that “[t]he patent claims ‘use slightly different language to describe substantially the same invention’ and, thus, satisfy the identity of issues requirement for finding collateral estoppel.” The Federal Circuit, however, rejected the District Court’s decision to invalidate the entire '953 patent on grounds that the '953 patent contains numerous claims not asserted in Allergan IV. Citing its prior decisions, the Federal Circuit stated that (i) when a patentee narrows the scope of litigation before any dispositive rulings by a court, and an accused infringer’s response is limited to the asserted claims, there is no case or controversy with respect to the unasserted claims, and (ii) all claims are ‘presumed valid independently of the validity of the other claims.’ Given that the second amended complaint filed by Sandoz asserted only three claims and “considering all of the circumstances before the District Court,” the Federal Circuit found that “[t]here was no case or controversy with respect to the unasserted claims at the time of the [Rule 12(b)(6)] motions; therefore the [D]istrict [C]ourt did not have jurisdiction over the unasserted claims.” The Federal Circuit, thus, finding that the District Court erred in invalidating the unasserted claims in the '953 patent, reversed the District Court’s order granting collateral estoppel and finding invalidity of Allergan’s '953 patent.

The Medicines Co. v. Mylan, Inc. (Fed. Cir. April 6, 2017)

This case involved U.S. Patent Nos. 7,582,727 and 7,598,343, owned by The Medicines Company, which are directed to an anti-clotting drug bivalirudin, marketed under the tradename Angiomax®. Mylan sought to market a generic version of Angiomax® following which Medicines sued Mylan for patent infringement. Mylan counterclaimed seeking a declaration that the asserted claims were invalid.

The meaning of the two claim terms "pharmaceutical batches" and "efficiently mixing" was at dispute. The District Court construed "pharmaceutical batches" to require batches made by a compounding process and "efficiently mixing" to require "not using inefficient mixing conditions such as described in Example 4." The District Court relied upon Examples 4 and 5 in the specification wherein "inefficient mixing" and "efficient mixing," respectively, were described.

The District Court thus granted summary judgment that the asserted claims of the '343 patent were not infringed based on Mylan’s ANDA specifying methods for formulating that did not use the claimed “efficient mixing” limitation of those claims. After conducting a bench trial, the District Court held that the



asserted claims of the '727 patent *were* infringed because those claims *did not* include an “efficient mixing” limitation and granted judgment in Medicine’s favor. The District Court rejected Mylan’s claim construction argument that the claims of the '727 patent require “efficient mixing” as described in Example 5. Mylan appealed, and Medicines cross-appealed.

On appeal, the Federal Circuit affirmed the District Court’s summary judgment decision regarding the '343 patent claims, but reversed the judgment regarding the '727 patent claims. The Federal Circuit explained that the “batches” limitation requires the claims to encompass only those having impurity levels less than 0.6%, and that this limitation cannot cover individual batches (because it was undisputed that such batches were known in the prior art). Expressly construing the “batches” claim limitation in view of the specification, the Federal Circuit stated “[r]ather, properly construed, what the batches limitation requires is the use of a process that achieves batch consistency,” and that “[t]he batches limitation therefore requires a process that achieves consistency between batches produced from the ‘same compounding process’—i.e., batch consistency.”

The Federal Circuit thus reasoned that adopting Medicines’ interpretation of the “batches” limitation would yield an unworkable claim construction and agreed with Mylan that “efficient mixing” is required by the “batches” limitation and is therefore a limitation of both the '727 and '343 patents. The Federal Circuit stated that for an ongoing commercial compounding process, under *Nautilus*, Medicines’ interpretation cannot provide “reasonable certainty” regarding the scope of the asserted claims.

Further, noting that the compounding must be defined in terms of the particular processes identified in the specification, the Federal Circuit rejected Medicines’ construction of “efficient mixing,” which attempts to cover all methods of meeting the purity level, without describing the entire range of processes. Using Medicines’ construction of the term, the Federal Circuit stated, “would expand the scope of ‘efficient mixing’ to cover any way of mixing that achieves a compounding solution having an Asp⁹ level of less than 0.6 percent” and thus violate the written description requirement. In view of the language in the specification, “mixing [that] is characterized by minimizing levels of Asp⁹-bivalirudin in the compounding solution,’ i.e., below 0.6 percent Asp⁹-bivalirudin in the intermediate solution,” which according to the Federal Circuit “clearly state what efficient mixing is and is not,” it construed the “efficient mixing” required by the patents in suit to require using the efficient mixing conditions as used in one of the examples (Example 5) disclosed in the Medicines patents. Thus, based on the above claim construction, The Federal Circuit held that Mylan’s ANDA did not infringe the asserted claims since Mylan does not use the process required by Example 5.

Helsinn Healthcare S.A. v. Teva Pharms. USA, Inc. (Fed. Cir. May 1, 2017)

This case involved Helsinn’s U.S. Patents No. 7,947,724, No. 7,947,725, No. 7,960,424, and No. 8,598,219, directed to intravenous formulations of palonosetron and reducing the likelihood of chemotherapy-induced nausea and vomiting (CINV). The patent applications that led to the first three patents predated the effective date of the AIA, and the fourth was post-AIA. While Phase III trials were



ongoing for Helsinn's drug, and almost two years before Helsinn filed for patent protection, Helsinn entered into two agreements with MGI Pharma. The agreements were announced in a joint press release and provided to the SEC. However, the actual dosage strength (0.25 mg or 0.75 mg, defined in the agreements) of palonosetron was not disclosed. Eventually, the FDA approved marketing of the 0.25 mg product.

Teva filed an ANDA that sought approval of a generic equivalent to the 0.25 mg Helsinn's palonosetron product. Helsinn sued Teva for allegedly infringing the patents directed to intravenous formulations of palonosetron, to which Teva countered that the patents were invalid under the on-sale bar because Helsinn and MGI Pharma entered into a supply and purchase agreement prior to the critical date.

The District Court, after a bench trial, analyzed the agreement under the two-part framework which provides that for the on-sale bar to apply, there must be a sale or an offer for sale and that the invention be ready for patenting. Based on the two-part test, the Court found that the disclosure of the agreement did not invalidate Helsinn's patents because although there was a qualifying sale or offer for sale for the three pre-AIA patents, there was no qualifying sale or offer for sale for the post-AIA patent and the invention was not ready for patenting before the critical date for all four patents.

On appeal, the Federal Circuit first determined that there was a sale of pre-AIA patented goods based on its recent decision, in which the Federal Circuit held that a sale was found to occur when there is a "contract between parties to give and to pass rights of property for consideration which the buyer pays or promises to pay the seller for the thing bought or sold."

Next, the Federal Circuit determined that there was indeed a qualifying sale or offer for sale for the post-AIA patent. It found the sale between Helsinn and MGI Pharma was public and hence did not decide whether a private sale would implicate the on-sale bar, and held that the on-sale bar only requires the sale, and not the details of the invention, to be public. The Federal Circuit further highlighted that a public disclosure of the invention does not play a role in determining whether an invention was on sale, and held nothing that the change in language from pre-AIA 35 U.S.C. § 102(b) to post-AIA 35 U.S.C. § 102(a)(1) altered this bedrock principle. Thus, the Federal Circuit reversed the District Court's decision on this question.

Lastly, the Federal Circuit determined that the invention was actually reduced to practice before the critical date. The Federal Circuit found that "[a]n invention is reduced to practice when 'the inventor (1) constructed an embodiment that met all the limitations and (2) determined that the invention would work for its intended purpose.'" The Federal Circuit underlined the difference between the standard to receive FDA approval and the requirement to show that an invention "worked for its intended purpose." The Federal Circuit found that to meet the "ready for patenting" standard, the invention needed to be merely "beyond a probability of failure" but not beyond a "possibility of failure." It also noted that "[l]ater refinements do not preclude reduction to practice and it is improper to conclude that an invention is not reduced to practice merely because further testing is being conducted." Looking to the results of the



Phase II trials and the Phase III trial protocols that referred to significant reduction in nausea through the use of 0.25 mg palonosetron, in addition to Helsinn's preliminary data tables from the Phase III trial that showed that 81% of patients experienced relief from nausea for 24 hours after receiving the 0.25 mg dose, as required by the claimed subject matter, the Federal Circuit determined that the invention was actually reduced to practice and ready for patenting under two-part framework prior to the critical date.

Based on the above reasoning, the Federal Circuit determined that the formulations of all four patents were offered for sale before the critical date and that the invention was also ready for patenting before the critical date, reversed the District Court's order, and found the four patents invalid under both the pre-AIA and post-AIA versions of Section 102's on-sale bar.

The Federal Circuit also disagreed that AIA §102 requires a sale to publicly disclose the details of the invention, noting that this interpretation "would work a foundational change in the theory of the statutory on-sale bar," and Congress would not have instituted this change absent clear language to that effect. As such, the Federal Circuit reversed the District Court's decision.

On December 26, 2017, the U.S. Court of Appeals for the Federal Circuit denied a petition for rehearing *en banc* in this case.

Braintree Labs., Inc. v. Breckenridge Pharm., Inc. (Fed. Cir. May 5, 2017)

This case involved Breckenridge Labs' generic version of Braintree's bowel preparation kit (SUPREP), which is sold to purge a patient's colon prior to inter alia colonoscopy. The kit is covered by Braintree's U.S. Patent No. 6,946,149. As sold by Braintree, the formulation comprised of "two six-ounce bottles of an aqueous hypertonic solution of potassium sulfate, magnesium sulfate, and sodium sulfate," which according to the FDA-approved label are filled to 16 ounces prior to consumption. The claim at issue is directed to "[a] composition for inducing purgation of the colon of a patient, the composition comprising from about 100 ml to about 500 ml of [the above mentioned] aqueous hypertonic solution."

Braintree sued Breckenridge alleging infringement of its bowel preparation kit patent and Breckenridge moved for summary judgment. At issue was the construction of the terms "purgation" and "from about 100 ml to about 500 ml." The District Court granted summary judgment finding that Breckenridge did not directly infringe nor induce infringement of Braintree's patent on two grounds: (i) the term "from about 100 ml to about 500 ml" meant the entire volume ingested, which was incontestably greater (946 mL) than the recited 500 mL limit, and (ii) Breckenridge's label could not induce infringement because anything less than "full" colonic purging was not an approved use of the formulation. Braintree appealed.

The Federal Circuit reversed the District Court's findings of non-infringement, including its finding that Breckenridge's proposed drug product labeling did not induce infringement. Relying on its prior decision, where the term "purgation" was construed to mean "an evacuation of a copious amount of stool from the bowels after oral administration of the solution," the Federal Circuit stated that "[t]he meaning of the term



'from about 100 ml to about 500 ml' was necessarily connected to [the prior] construction of 'purgation,'" and rejected Breckenridge's assertion that the prior decision by Federal Circuit was not preclusive with regard to the volumetric limitation.

The Federal Circuit explained that Breckenridge's proposed labeling evidences a specific intent to induce infringement of the claimed method because "inducing purgation is the means by which the approved indication achieves its result." The Federal Circuit also found that, even though Breckenridge's proposed labeling did not recite "inducing purgation" as an approved indication, physicians reading the labeling would understand it "to recommend or suggests that 'inducing purgation' [with Breckenridge's generic product] is safe and effective." The Federal Circuit found that Breckenridge's label "requires performing the claimed steps [of inducing purgation] in order to achieve colon cleansing" reasoning that "[t]o hold otherwise would lead to the absurd result that a physician would understand Breckenridge's proposed product to be safe and effective for fully cleansing the colon, but not safe and effective at accomplishing a partial colon cleansing" that is achieved during the treatment process.

The Federal Circuit further stated that this case is different from its precedents where an ANDA applicant's label did not induce infringement because the claims were directed to uses that had not been approved by the FDA (and so the label did not encourage the claimed use). In those cases, the Court explained, the proposed labels did not suggest to physicians that the drugs were safe and effective for administration to patients for the claimed uses, despite the fact that the generic product may necessarily lead to claimed effects.

Mylan Institutional v. Aurobindo Pharma Ltd. (Fed. Cir. May 19, 2017)

This case involved U.S. Patent Nos. 7,622,992, 8,969,616 and 9,353,050 related to Isosulfan Blue ("ISB"), a triarylmethane dye used to map patient's lymph nodes in diagnostic methods. Mylan licensed the patents-in-suit from its co-plaintiff, Apicore US LLC. At the time, other formulations of ISB existed on the market, but were of limited use due to impurity problems and were eventually withdrawn from commerce.

Aurobindo sought FDA approval to manufacture and market a generic ISB product. Aurobindo modified the production methods disclosed in patents at suit by substituting manganese dioxide for silver oxide as recited in the patent claims, which produced ISB that was 90-95% pure, and the final product was purified to "greater than 99.5%" using preparative HPLC. Mylan sued Aurobindo for infringement and sought a preliminary injunction against Aurobindo, which the District Court granted with respect to all three patents. The District Court, premising on the "function, way, result" test, concluded that Aurobindo's process was equivalent to the process described in the patents. Aurobindo appealed the District Court's determination, arguing (i) that the District Court erred in finding that its method of producing ISB infringed the '992 and '616 patents under the doctrine of equivalents, (ii) that it had not raised a substantial question of validity regarding the '050 patent, and (iii) that Apicore would suffer irreparable harm.



The Federal Circuit affirmed in part and reversed in part. First, the Federal Circuit characterized the District Court's application of the "function, way, result" test as being "flawed by being unduly truncated and hence incomplete." It stated that "[t]he Supreme Court was surely correct in stating that non-mechanical cases may not be well-suited to consideration under the FWR test" and that this "seems to be particularly true in the chemical arts." The Federal Circuit found that in combining the "function" and "way" prongs of the test, the District Court failed to address adequately the "way" prong and thus improperly applied the "function, way, result" test. It held that the District Court misapplied the "function, way, result" test and erred in the doctrine of equivalents analysis in concluding that Aurobindo's use of manganese dioxide is equivalent to Mylan's process patents' use of silver oxide.

The Federal Circuit further stated that the District Court should have considered the insubstantial differences test to evaluate equivalence, which may be more appropriate in chemical cases and could yield different results. In connection with the irreparable harm requirement, the Federal Circuit found no clear error in the District Court's determination that Mylan has, and will continue to, suffer from lost sales, price erosion, and having to compete with an infringer. With respect to the standard for granting a preliminary injunction, the Federal Circuit explained that the District Court's analysis of the four factors comprising the (1) likelihood of success on the merits; (2) irreparable harm to the patentee; (3) balance of the hardships; and (4) public interest, were satisfied by Mylan.

The Federal Circuit thus sided with the District Court's conclusion that: (1) due to Aurobindo's infringement, Apicore has, and will continue to, suffer from lost sales, lost research and development, price erosion, and having to directly compete with an infringer; (2) there was a causal nexus between Aurobindo's infringement and Apicore's harm because Aurobindo's product "would not be on the market if [it] had not obtained [FDA] approval for a product that will likely be found to be covered by the patents;" and (3) "[w]ithout infringing the patents, Aurobindo would not be able to make the [ISB] product described in its ANDA."

Millennium Pharmaceuticals, Inc. v. Sandoz Inc. (Fed. Cir. July 17, 2017)

This case involved Velcade®, Millennium's oncology product (protected by U.S. Patent No. 6,713,446) prescribed for multiple myeloma and mantle cell lymphoma. Millennium's patent is directed to D-mannitol N-(2-pyrazine) carbonyl-L-phenylalanine-L-leucine boronate (a D-mannitol ester of bortezomib).

In separate cases, multiple Defendants filed ANDAs, admitting infringement and seeking to invalidate various claims of the patent at issue. In the litigation that ensued, the District Court held that the asserted claims of the patent were invalid as obvious because the formation of the prodrug was an inherent result of an allegedly obvious process, specifically lyophilizing bortezomib and mannitol together. Bortezomib and mannitol were both known in the art, bortezomib having anticancer properties and mannitol being useful as a bulking agent; lyophilization was known in the art; and the produced ester (admittedly resulting merely from lyophilization of bortezomib and mannitol together) was thus the inherent result. The District Court rejected Millennium's argument that the skilled worker would not have used lyophilization



with a compound with bortezomib's known (in)stability characteristics, in view of testimony from Sandoz's expert that "lyophilization 'was well-known in the field of formulation' and that it was considered an obvious alternative 'when a liquid formulation provided limited success.'" The District Court thus reasoned that the "natural result" of a chemical procedure is inherent in the procedure, and thus the product thereof would have been obvious to a person of ordinary skill. The District Court also found that Millennium neither established unexpected results nor a long-felt need. Millennium appealed, asserting that the District Court erred in its obviousness analysis. The Federal Circuit consolidated the various appeals.

The question before the Federal Circuit was whether a person of ordinary skill, seeking to remedy the known instability and insolubility and to produce an efficacious formulation of bortezomib, would obviously produce the D-mannitol ester of bortezomib, a previously unknown compound.

The Federal Circuit held that the District Court clearly erred in its obviousness analysis because "[t]here is no teaching or suggestion in the references to produce the claimed mannitol ester," "[n]o reference shows or suggests ester formation at freeze-drying conditions, or that any such ester might solve the problems of instability and insolubility of the free acid while dissociating rapidly in the bloodstream," and "[n]o reference provides a reason to make the mannitol ester of bortezomib." The Federal Circuit agreed with Millennium's position that the skilled worker would have avoided mannitol esterification because "several different esters, each with different chemical and possibly biological properties" might result.

The Federal Circuit stated that although (i) lyophilization was a generally known method for pharmaceutical formulation, (ii) bulking agents were known to be used in such lyophilizations and (iii) mannitol was a known bulking agent; there was nothing in the prior art that lyophilizing these two compounds would (a) "produce a chemical reaction and form a new chemical compound," (b) "provide a reason to make this specific new chemical compound," or (c) make a new compound that would provide a solution to the "previously intractable problems of bortezomib formulation" useful as an anticancer pharmaceutical. The Federal Circuit highlighted that obviousness requires that the reason for taking the particular experimental route leading to the claimed success, as well as a reasonable expectation of achieving that success, be provided by the art; and that the instant case, in which the result is unforeseen and serendipitous, does not satisfy these criteria.

Further, the Federal Circuit found that (i) the District Court's obviousness analysis was insufficient in considering the objective indicia of non-obviousness, which factors can be "independent evidence of nonobviousness," and (ii) the District Court's conclusion, with respect to the question of long-felt need, was "both perfunctory and clearly erroneous," there being "no dispute" that there was a need for anticancer treatment for multiple myeloma and the claimed compound satisfied that need.

Based on the above reasoning, the Federal Circuit reversed the District Court's judgment of invalidity and entered judgment for Millennium, in addition to vacating judgments in separate actions that had been entered based on collateral estoppel.



Regeneron Pharmaceuticals, Inc. v. Merus N.V. (Fed. Cir. July 27, 2017)

This case arose over Regeneron's U.S. Patent No. 8,502,018, which is directed to transgenic mice expressing human variable domain immunoglobulin (Ig) genes. Claim 1 of the patent is drawn to “[a] genetically modified mouse, comprising in its germline human unrearranged variable region gene segments inserted at an endogenous mouse immunoglobulin locus,” and the issue was the construction of the proper scope and meaning of the phrase “comprising in its germline human unrearranged variable region gene segments.”

Shortly after Regeneron’s patent issued, it sued Merus for infringement. Regeneron argued that the claim includes only reverse chimeric antibodies encoded in the recombinant mouse genome because, based on the plain meaning of the phrase in the patent specification, it was limited to inserting only human unrearranged variable regions genes. On the other hand, Merus argued that the claim also encompassed humanized, fully human, and reverse chimeric antibody embodiments because the word "comprising" in the claim made the proper construction broader than just insertion of human unrearranged variable region gene segments. Merus further alleged unenforceability of Regeneron’s patent due to inequitable conduct by Regeneron for withholding four references from the United States Patent and Trademark Office (“USPTO”) during prosecution of the Patent.

Both Regeneron and Merus agreed that there were four references known to Regeneron during prosecution that were not cited to the USPTO. These references were cited by a third party during prosecution of a related application after Regeneron received a Notice of Allowance for the patent at issue. Regeneron did not submit these references to the USPTO in the application that was granted as the patent at issue but did cite these references in all other pending related applications. Regeneron argued that these references were neither material nor were withheld with specific intent to deceive the USPTO.

The District Court found that the references were "but for" material and not cumulative, and based on the Federal Circuit's *Therasense* decision, it concluded that Regeneron had committed inequitable conduct and held the patent to be unenforceable. The District Court further held that Regeneron’s “repeated violations of discovery orders and improper secreting of relevant and non-privileged documents” permitted the court to draw an adverse inference that Regeneron’s agents specifically intended to deceive the USPTO by not disclosing the withheld references. Regeneron appealed.

The Federal Circuit majority concluded that the District Court properly found that the withheld references were but-for material and were not cumulative of references that were considered during prosecution. Reviewing the litigation misconduct recorded by the District Court in its opinion, the Federal Circuit found that the District Court did not abuse its discretion when it decided to forego the second part of the bifurcated trial on inequitable conduct and draw an adverse inference that there was an intent to deceive. The Federal Circuit stated that Regeneron had not "meaningfully dispute[d] any of the factual findings underlying the district court's decision." These findings referred to by the Federal Circuit included



(i) withholding as privileged information where the privilege had been waived, (ii) improperly withholding and citing on privilege logs documents clearly not privileged and (iii) withholding evidence of patent prosecution counsels' reasoning and state of mind relevant to whether counsel had an intent to deceive.

The Federal Circuit explained that “in light of [Regeneron’s] widespread litigation misconduct, including [its] use of sword and shield tactics to protect [prosecution counsel’s] thoughts regarding disclosure of the Withheld References to the PTO during prosecution of the '018 patent, we conclude that the district court did not abuse its discretion by drawing an adverse inference of specific intent to deceive the PTO.”

Thus, the Federal Circuit affirmed the District Court’s decision that the claims of Regeneron’s patent-in-suit were unenforceable due to inequitable conduct in the patent’s procurement.

Amgen, Inc. v. Hospira, Inc. (Fed. Cir. August 10, 2017)

This case involved Amgen’s patents related to the drug Epogen®. Amgen (sponsor) sued Hospira (biosimilar applicant) in U.S. District Court for patent infringement pursuant to the Biologics Price Competition and Innovation Act of 2009 (BPCIA).

Under the BPCIA, after a sponsor has demonstrated to the FDA that a drug is safe, pure and potent, a party (applicant) may submit an "abbreviated" application without demonstrating safety, purity and potency of a "biosimilar" of the drug. The Act requires as first of the two phases of litigation that the applicant furnish information regarding its abbreviated application and processes for making the biosimilar, relevant to the sponsor’s patent rights, to the sponsor, leading to a series of information exchanges, including the list of patents that the parties would like to "litigate immediately." The second phase involves any patents included in the lists "but not litigated in the first phase," and is triggered by the applicant’s notice to the sponsor regarding commercial marketing. Amgen listed a number of patents but none regarding a specific cell culture medium used to manufacture its drug.

Shortly after submitting the application to the FDA, Hospira provided its application to Amgen but did not provide any additional manufacturing information. Hospira alleged that the application contained sufficient information about both the product and the process of its manufacture. Eventually, after the parties conducted patent dance, Amgen filed suit in the District Court, and sought discovery of the withheld information, including the composition of Hospira’s cell-culture medium. Hospira refused to produce the information regarding cell-culture. Amgen filed a motion to compel discovery, which the District Court denied explaining that the information sought had "essentially no relevance to the patents that are asserted." Amgen appealed the decision, and in the alternative, requested a writ of mandamus compelling the District Court to order production of the requested discovery.

The Federal Circuit denied the motion while leaving the question of jurisdiction open, requesting briefing on the merits as well as additional briefing on whether the Court has jurisdiction under the collateral order doctrine or the All Writs Act. The Federal Circuit held that it lacks jurisdiction to hear the dispute, as



Amgen was not entitled to mandamus under the All Writs Act because Amgen did not establish a “clear and undisputable” right to the relief.

The Federal Circuit explained “five potential avenues” available to a reference product sponsor seeking to secure process information pursuant to 42 U.S.C. § 262(l)(2)(A), and concluded that (i) a federal injunction to comply with (2)(A) and a patent infringement suit for failing to comply with (2)(A) have been foreclosed by the Supreme Court in *Amgen v. Sandoz*, (ii) an injunction to comply with (2)(A) under state law was not at issue because Amgen did not bring state law claims, (iii) bringing suit under 25 U.S.C. § 271(e)(C)(i) is not available to Amgen because 25 U.S.C. § 271(e)(C)(i) only involves the patents that Amgen listed under (3)(A), and Amgen did not list any cell culture patents. The last “avenue” addressed by the Federal Circuit was to bring suit under § 271(e)(2)(C)(ii) for patents that “*could* be identified” on a (3)(A) list. However, since Amgen has not brought suit on any of the cell culture patents [that could be identified on the (3)(A) list], the Federal Circuit explicitly noted that it was not addressing which patents could be litigated under (C)(ii).

Further, the Federal Circuit highlighted that, based on the applicant’s initial disclosure, the BPCIA “requires the sponsor to list patents that it ‘believes . . . could reasonably be asserted.’” Then, “once a patent is listed by the sponsor, the BPCIA’s information exchange further requires the applicant to ‘provide to the . . . sponsor, with respect to each patent listed . . . a detailed statement that describes, on a claim by claim basis, the factual and legal basis’ for the applicant’s assertion that ‘such patent is invalid, unenforceable, or will not be infringed.’” At that point, if the applicant “fails to comply” with its disclosure obligations, the “sponsor would have a reasonable basis for asserting a claim of patent infringement.”

Since Amgen could have listed the unasserted patents, the denial of discovery did not undermine the purpose of the BPCIA. Accordingly, the Court dismissed the appeal for lack of jurisdiction and denied Amgen’s petition for a writ of mandamus.

Amgen Inc. v. Sanofi, Aventisub LLC (Fed. Cir. October 5, 2017)

This case involved Amgen’s U.S. Patent Nos. 8,829,165 and 8,859,741, directed towards antibodies that help rid the body of “low-density lipoprotein” cholesterol (LDL-C). Amgen sued Sanofi, alleging that Sanofi’s Praluent®, a monoclonal antibody, infringed Amgen’s patents.

At the District Court, Sanofi argued that Amgen’s patents did not disclose enough species of antibodies to provide written description support for claims to the entire genus of antibodies that bind to PCSK9 at the specified amino acid residues. To support its argument, Sanofi sought to introduce post-priority-date evidence of additional species of antibodies (including Praluent®) and the process by which they are discovered. The District Court, however, excluded all post-priority-date evidence as not relevant to the state of the art at the time Amgen filed its applications, in addition to instructing the jury that written description can be satisfied “by the disclosure of a newly-characterized antigen . . . if you find that the level of skill and knowledge in the art of antibodies at the time of filing was such that production of



antibodies against such an antigen was conventional or routine.” In light of this, the patents were held not invalid in a jury trial, and the District Court granted a permanent injunction prohibiting the sale of Sanofi’s drug “Praluent®.”

The Federal Circuit reversed the District Court’s decision to exclude Sanofi’s post-priority-date evidence of lack of written description and lack of enablement reasoning that such evidence was “not being introduced [by Sanofi] to illuminate the state of the art on the priority date but to show that the patent purportedly did not disclose a representative number of species.” It explained that although evidence produced after the priority date for a patent-in-suit is generally not admissible to teach the state of the art at the time the patent was filed, such evidence may be used for another purpose, including to show that the species disclosed in a patent were not representative of the entire genus covered by the claims. The Federal Circuit held that Sanofi should have been permitted to introduce evidence that other antibodies, including its own later-produced antibodies, differed from the antibodies disclosed in the patent.

In addition, the Federal Circuit disagreed with the “newly characterized antigen” test in the District Court’s jury instructions, explaining that the test allowed the jury to find that a claim to an antibody had written description support based on disclosure of the structure, formula, chemical name, or physical properties of a newly characterized antigen, so long as production of antibodies against such an antigen was conventional or routine. Instead, the Federal Circuit stated that the applicants must disclose a sufficient number of species of antibodies, or adequately describe the characteristics of the genus of antibodies, such that the species may be recognized by those skilled in the art. The Federal Circuit reversed on the jury instructions and remanded the case for a new trial.

Merck Sharp & Dohme Corp. v. Hospira (Fed. Cir. October 26, 2017)

This case included Merck’s patents (U.S. Patent Nos. 6,486,150 and 5,952,323) directed to a process for preparing a stable formulation of ertapenem, an antibiotic compound sold under the brand name Invanz®. Hospira notified Merck that it had filed an ANDA, seeking FDA approval to engage in the commercial manufacture, use, or sale of generic versions of Merck’s Invanz® product, the principal component of which is the carbon dioxide adduct of ertapenem. Merck sued Hospira for infringement.

After a bench trial, the District Court found the ‘323 patent infringed and not invalid, and the ‘150 patent invalid as obvious because the claimed steps could have been discovered by routine experimentation. The District Court explained that although none of the three recited steps of the claimed process were disclosed in the prior art, the “recipe” for the final stabilized ertapenem formulation was disclosed, and the three recited steps were conventional manufacturing steps that were the product of routine experimentation. It was held, with respect to the objective indicia of non-obviousness, that although there was evidence of commercial success and copying, the evidence was not strong enough to overcome the “strong prima facie case of obviousness” established by Hospira. The District Court also sided with Merck with respect to arguments related to commercial success and copying. Merck appealed the invalidity finding of the ‘150 patent.



The Federal Circuit affirmed the District Court's judgment reasoning that Merck's patent related to a process for preparing its branded antibiotic Invanz[®] and that in view of the prior art, Merck's claims amounted to straightforward application of well-understood prior art principles, and so were obvious. The Federal Circuit rejected Merck's argument that the prior art failed to disclose the precise order and detail of claimed steps; such "would have been determined by routine experimentation while implementing known principles."

The Federal Circuit stated that the District Court committed no clear error in its obviousness analysis by giving "full and proper weight" to Merck's tender of objective evidence concerning nonobviousness, particularly the commercial success of Merck's Invanz product. The Federal Circuit, however, found that the District Court erred in reasoning that, because Merck had separate patents covering erTapenem itself, evidence of Invanz's commercial success should be discounted. "[M]ultiple patents do not necessarily detract from evidence of commercial success of a product or process[.]" Thus, although the Federal Circuit faulted the District Court for not considering Merck's commercial success evidence because Merck owned another patent covering the '150 patent's product, it found no clear error in the ultimate obviousness determination. The Federal Circuit agreed that Merck's evidence of commercial success and copying did not overcome the competing evidence of obviousness.

Bayer Pharma AG. v. Watson Laboratories, Inc. (Fed. Cir. November 1, 2017)

This case involved U.S. Patent No. 8,613,950, which is directed to oral disintegration tablet (ODT) formulations of the erectile dysfunction (ED) drug vardenafil, sold by Bayer as Staxyn[®]. Watson filed an FDA Abbreviated New Drug Application (ANDA) seeking approval to market a generic version of Staxyn. Bayer sued Watson for patent infringement.

At the District Court, Watson argued the claimed formulation of vardenafil would have been obvious to a person of ordinary skill in the art based on multiple exemplary references showing a motivation to: (1) create an ODT formulation of vardenafil; (2) select mannitol and sorbitol as sugar alcohols; and (3) make the ODT formulation immediate-release. The District Court rejected Watson's arguments finding that a person of ordinary skill in the art would not have been motivated to create an ODT formulation of vardenafil and would not have used mannitol and sorbitol as excipients. Further, the District Court found that the prior art taught away from formulating vardenafil ODT as immediate-release. Watson appealed.

The Federal Circuit reversed the District Court's holding that Watson failed to prove by clear and convincing evidence that the two claims would have been obvious. It found that the District Court clearly erred (i) by giving unnecessary importance to the nonexistence of an ODT ED drug with FDA approval prior to the '950 patent's priority date, and (ii) by not considering six of the nine prior art references presented by Watson which disclosed the applicability of an ODT formulation with an ED drug. Consequently, a person having ordinary skill in the art would have been motivated to combine an ODT formulation with vardenafil.



The Federal Circuit explained that despite concerns in the prior art of the bitter taste and increased bioavailability, the prior art did not teach away from the immediate release limitation of vardenafil ODT. It explained that "a district court cannot, through a credibility determination, ignore the wealth of evidence, especially as in this case where the expert did not even address it." The Federal Circuit noted that the District Court failed by relying on the absence of ODT formulations of erectile dysfunction in the market at the relevant time as evidence of nonobviousness, because "[t]he motivation to combine inquiry is not limited to what products are forthcoming or currently available on the market." Citing its prior decisions, the Federal Circuit highlighted that "[w]hen there are only two possible formulations and both are known in the art at the time, the fact that there may be reasons a skilled artisan would prefer one over the other does not amount to a teaching away from the lesser preferred but still workable option," and "obviousness 'does not require that the motivation be the best option, only that it be a suitable option from which the prior art did not teach away.'"

The motivation to prepare an ODT formulation of vardenafil was evident to the Federal Circuit from the cited references, which were enough for it to find clear error in the District Court's contrary determination. Thus, it found that the District Court did not clearly err in its fact finding regarding the delayed-release limitation and the immediate-release limitation, but clearly erred in concluding that those findings taught away from the claimed limitation. Weighing all of the Graham factors, the Federal Circuit concluded that a person having ordinary skill in the art would have been motivated to combine the limitations as recited in claims at issue and reversed the District Court's holding.

Sanofi v. Watson Laboratories, Inc. (Fed. Cir. November 9, 2017)

This case involved Sanofi's U.S. Patent Nos. 8,318,800 and 8,410,167, which describe and claim compositions and uses of the cardiovascular (specifically, antiarrhythmic) drug dronedarone, which was marketed under the name Multaq®. Watson Laboratories Inc. and Sandoz Inc. filed an ANDA for generic versions of Multaq® certifying that the '167 and '800 patents were invalid and/or that the manufacture, use, and sale of the proposed generic drugs would not infringe either patent. Sanofi sued Watson and Sandoz for infringement of the two patents under 35 U.S.C. § 271(e)(2)(A).

The District Court, after a three-day bench trial, ruled for Sanofi based on the following reasons. With respect to the '167 patent, the District Court found Sanofi proved that Watson's and Sandoz's sale of their proposed generic drugs, with their proposed labels, would induce physicians to infringe all but one of the asserted claims and that Watson and Sandoz did not prove that any of the asserted claims were invalid for obviousness. Further, with respect to the '800 patent, the District Court concluded that the asserted claims do not exclude compositions containing polysorbate surfactants, rejecting the non-infringement argument made by Watson and Sandoz. Further, the District Court found that a person having ordinary skill in the art "would not have had a reasonable expectation that dronedarone would reduce the risk of cardiovascular hospitalization and hospitalization for [atrial fibrillation] in patients with paroxysmal or persistent [atrial fibrillation] and the associated risk factors of the ATHENA patient population." Watson



and Sandoz appealed arguing that the District Court applied too high of a standard and that, even if the standard was correct, the finding was erroneous.

The Federal Circuit affirmed the District Court's ruling. It concluded that the District Court relied on the proper standards and arrived at the correct conclusion explaining that "[t]he label [] directs medical providers to information identifying the desired benefit for only patients with the patent-claimed risk factors," and that the District Court pointed to ample evidence in the record to support this finding, noting that the defendants' own expert acknowledged that persons of ordinary skill in the art "look[] to drug labels, in part, for information about the use of a drug in special or specific populations and that it is important for the [person of skill] to look at the label's indications section to see if a drug is indicated for administration to patients of certain characteristics with a certain intent."

The Federal Circuit highlighted that the District Court did not expressly or impliedly demand known certainty, but rather reasonable certainty, as to the objective of reduced hospitalization. In particular, the fact that the District Court credited the researchers' expectation that the treatment would work as a mere hypothesis and not a concrete factual assertion did not imply that the District Court demanded known certainty. Finally, the Federal Circuit rejected Watson's argument that Multaq® has "substantial noninfringing uses not forbidden by the proposed labels," explaining that "there is no legal or logical basis for the suggested limitation on inducement" and pointing out that this is a required element of contributory infringement under section 271(c).

Genzyme Corp. v. Dr. Reddy's Labs., Ltd. (Fed. Cir. December 18, 2017)

This case involved Genzyme's patent (U.S. Patent No. 7,897,590) which is directed to a method for mobilizing and harvesting stem cells by sequentially administering two drug products. Specifically, the '590 patent is directed to the use of a regimen comprising a combination of granulocyte-colony stimulating factor (G-CSF) and plerixafor to increase the number of stem cells in the blood for collection. In the ANDA lawsuit, Dr. Reddy's argued that the asserted claim was obvious.

Following a four-day bench trial before the District Court, the parties submitted proposed findings of facts and conclusions of law. Dr. Reddy's filed a motion for a judgment on partial findings on its affirmative defense and counterclaim asserting invalidity of Claim 19 of the '590 Patent. The District Court concluded that Claim 19 was not invalid for obviousness (in view of two prior art references: Hendrix and "the '304 patent") and entered a final judgment enjoining Dr. Reddy's from commercially manufacturing, using, offering for sale, selling, or importing its generic products before expiration of the '590 Patent. Dr. Reddy's appealed arguing that the only difference between the claimed invention and the '304 patent is that the '304 patent does not teach that the blocking agent can be plerixafor. But that would have been obvious, Dr. Reddy's argues, because Hendrix expressly suggested that plerixafor could function as a blocking agent for releasing stem cells from the marrow.



The basic dispute for the Federal Circuit is whether a person of skill would have a reasonable expectation that combining Hendrix with the other references would lead to a treatment that mobilizes stem cells as claimed. Citing its prior decisions, the Federal Circuit highlighted that the “underlying factual considerations in an obviousness analysis include the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the art, and any relevant secondary considerations[,]” which include “commercial success, long-felt but unsolved needs, failure of others, and unexpected results.” The Federal Circuit further stated that “[h]ere, the district court found that a skilled artisan would not have had a reasonable expectation of success that plerixafor would mobilize stem cells ... [Dr. Reddy’s] has not shown that this determination was clearly erroneous,” and that “[t]he district court weighed all evidence and assessed the credibility of witnesses. Its view that there was no reasonable expectation of success, based on the evidence presented at trial on a combination of Hendrix and the '304 Patent, was not clearly erroneous.” In addition, the Federal Circuit reasoned that “The district court’s finding that stem cell mobilization was highly unpredictable at the time of the invention also runs counter to an expectation of success. In particular, there was great uncertainty about the role of SDF-1 or CXCR-4, if any, in the process of stem cell mobilization.”

In conclusion, the Federal Circuit explained that “[a]fter reviewing the record surrounding the prior art and analyzing the arguments of the parties, we conclude that the district court’s factual conclusions regarding an insufficient reasonable expectation of success were not clearly erroneous. That evidence is sufficient to uphold the district court’s determination against the arguments [Dr. Reddy’s] has presented for reversal, and we need not review the district court’s analysis of secondary considerations that, if sound, could only further undermine DRL’s argument for obviousness. We have considered [Dr. Reddy’s] remaining arguments but find them unpersuasive. For the foregoing reasons, we affirm the district court’s holding that the '590 Patent is not invalid.”



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