UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FLATWING PHARMACEUTICALS, LLC and
MYLAN PHARMACEUTICALS INC.,
Petitioners,

v.

ANACOR PHAMACEUTICALS, INC.,
Patent Owner.

Case No. IPR2018-00168[1]
U.S. Patent No. 9,549,938

PATENT OWNER'S AMENDED EXHIBIT LIST

[1] Case No. IPR2018-01358 has been joined with this proceeding

LIST OF EXHIBITS

Exhibit	Description
2002	Transcript of May 2016 Deposition of S. Narasimha Murthy, Ph.D.
2003	Transcript of September 2016 Deposition of S. Narasimha Murthy, Ph.D.
2004	Nair et al., *Alteration of the diffusional barrier property of the nail leads to greater terbinafine drug loading and permeation*, Int'l J. Pharm., vol. 375, pp. 22–27 (2009)
2005	Nair et al., *A study on the effect of inorganic salts in transungual drug delivery of terbinafine*, J. Pharm. Pharmacol., vol. 61, pp. 431–37 (2009)
2006	Shivakumar et al., *Bilayered Nail Lacquer of Terbinafine Hydrochloride for Treatment of Onychomycosis*, J. Pharm. Sci., vol. 99, pp. 4267–76 (2010)
2007	Shivakumar et al., *Transungual drug delivery: an update*, J. Drug Del. Sci. Tech., vol. 24, pp. 301–10 (2014)
2008	Murthy et al., *Iontophoretic Drug Delivery across Human Nail*, J. Pharm. Sci., vol. 96, pp. 305–11 (2007)
2009	Gupta et al., *The use of topical therapies to treat onychomycosis*, Dermatol. Clin., vol. 21, pp. 481–89 (2003)
2010	Transcript of April 2016 Deposition of Stephen B. Kahl, Ph.D.
2011	Transcript of September 2016 Deposition of Stephen B. Kahl, Ph.D.
2012	Structural Diagrams from August 2018 Deposition of Stephen B. Kahl, Ph.D.
2013	Declaration of Paul J. Reider, Ph.D.
2014	Declaration of Majella E. Lane, Ph.D.
2015	Baker et al., *Therapeutic potential of boron-containing compounds*, Future Med. Chem., vol. 1, pp. 1275–88 (2009)

Exhibit	Description
2016	Dennis G. Hall, *Structure, Properties, and Preparation of Boronic Acid Derivatives: Overview of Their Reactions and Applications*, *in* Boronic Acids: Preparation and Applications in Organic Synthesis, Medicine and Materials, Second Edition (Dennis G. Hall ed. 2011)
2017	Transcript of August 23, 2018 Deposition of Stephen B. Kahl, Ph.D.
2018	Transcript of August 20, 2018 Deposition of S. Narasimha Murthy, Ph.D.
2019	McNamara et al., *Synthesis of Unsymmetrical Dithioacetals: An Efficient Synthesis of a Novel LTD_4 Antagonist, L-660,711*, J. Org. Chem., vol. 54, pp. 3718–21 (1989)
2020	Ryan et al., *Enhanced Reactivity of Iminium Ions as Heterodienophiles in Lewis Acid Mediated 4+2 Cycloaddition Reactions*, Tetrahedron Letters, vol. 28, pp. 2103–06 (1987)
2021	Brown et al., *Boron in Plant Biology*, Plant Biol. vol. 4, pp. 205–23 (2002)
2022	J.D. Lloyd, *Borates and their biological applications*, 29th Annual meeting of the International Research Group on Wood Preservation (June 1998)
2023	William G. Woods, *Review of Possible Boron Speciation Relating to its Essentiality*, J. Trace Elements in Exp. Med., vol. 9, pp. 153–63 (1996)
2024	Steiner et al., *Diphenylborinic Acid Is a Strong Inhibitor of Serine Proteases*, Bioorg. & Med. Chem. Lett., vol. 4, pp. 2417–20 (1994)
2025	Zhdankin et al, *Synthesis and structure of benzoboroxoles: novel organoboron heterocycles*, Tetrahedron Letters, vol. 40, pp. 6705–08 (1999)
2026	Dowlut & Hall, *An Improved Class of Sugar-Binding Boronic Acids, Soluble and Capable of Complexing Glycosides in Neutral Water*, J. Am. Chem. Soc., vol. 128, pp. 4226–27 (2006)

Exhibit	Description
2027	Boni E. Elewski, *Onychomycosis: Pathogenesis, Diagnosis, and Management*, Clin. Microbiology Revs., vol. 11, pp. 415–29 (1998)
2028	Wang et al., *Keratin: Structure, mechanical properties, occurrence in biological organisms, and efforts at bioinspiration*, Prog. Mater. Sci., vol. 76, pp. 229–318 (2016)
2029	Runne & Orfanos, *The Human Nail: Structure, Growth and Pathological Changes*, Curr. Prob. Derm. vol. 9, pp. 102–49 (1981)
2030	Topical Nail Products and Ungual Drug Delivery (Murthy & Maibach eds. 2013)
2031	Walters et al., *Physicochemical characterization of the human nail: permeation pattern for water and the homologous alcohols and differences with respect to the stratum corneum*, J. Pharm. Pharmacol. vol. 35, pp. 28–33 (1983)
2032	Kobayashi et al., *In vitro permeation of several drugs through the human nail plate: relationship between physicochemical properties and nail permeability of drugs*, Eur. J. Pharm. Sci., vol. 21 pp. 471–77 (2004)
2033	Mertin & Lippold, *In-vitro Permeability of the Human Nail of a Keratin Membrane from Bovine Hooves: Influence of the Partition Coefficient Octanol/Water and the Water Solubility of Drugs on their Permeability and Maximum Flux*, J. Pharm. Pharmacol., vol. 49, pp. 30–34 (1997)
2034	Mertin & Lippold, *In-vitro Permeability of the Human Nail and of a Keratin Membrane from Bovine Hooves: Penetration of Chloramphenicol from Lipophilic Vehicles and a Nail Lacquer*, J. Pharm. Pharmacol., vol. 49, pp. 241–45 (1997)
2035	Pollak et al., *Efinaconazole Topical Solution, 10%: Factors Contributing to Onychomycosis Success*, J. Fungi, vol. 1, pp. 107–14 (2015)

Exhibit	Description
2036	Sugiura et al., *The Low Keratin Affinity of Efinaconazole Contributes to Its Nail Penetration and Fungicidal Activity in Topical Onychomycosis Treatment*, Antimicrobial Agents & Chemotherapy, vol. 58, pp. 3837–42 (2014)
2037	Tatsumi et al., *Therapeutic Efficacy of Topically Applied KP-103 against Experimental Tinea Unguium in Guinea Pigs in Comparison with Amorolfine and Terbinafine*, Antimicrobial Agents & Chemotherapy, vol. 46, pp. 3797–801 (2002)
2038	Biobor JF Service Bulletin No. 982
2039	Yao et al., *Borate Esters Used as Lubricant Additives*, Lubrication Science, vol. 14, pp. 415–23 (2002)
2040	Lee & Wong, *Toxic Effects of Some Alcohol and Ethylene Glycol Derivatives on Cladosporium resinae*, Applied & Envtl. Microbiol., vol. 38, pp. 24–28 (1979)
2041	Marova et al., *Non-enzymatic glycation of epidermal proteins of the stratum corneum in diabetic patients*, Acta Diabetologica, vol. 32, pp. 38–43 (1995)
2042	Bakan & Bakan, *Glycosylation of nail in diabetics: possible marker of long-term hyperglycaemia*, Clin. Chim. Acta, vol. 147, pp 1–5 (1985)
2043	Bo Forslind, *Biophysical Studies of the Normal Nail*, Acta Derm Venerol, vol. 5, pp. 161–68, (1970)
2044	Curriculum Vitae of Paul J. Reider, Ph.D.
2045	Curriculum Vitae of Majella E. Lane, Ph.D.
2046	Transcript of January 11, 2019 Deposition of S. Narasimha Murthy, Ph.D.
2047	Transcript of January 8, 2019 Deposition of Stephen B. Kahl, Ph.D.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.