

IPR2020-00770  
U.S. Patent No. 9,604,901

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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LIQUIDIA TECHNOLOGIES, INC.,  
Petitioner

v.

UNITED THERAPEUTICS CORPORATION,  
Patent Owner

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IPR2020-00770  
U.S. Patent No. 9,604,901

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**PETITIONER'S UPDATED EXHIBIT LIST**

Exhibit No.	Description of Document
1001	U.S. Patent No. 9,604,901 to Batra, et al. (the “’901 patent”)
1002	Declaration of Jeffrey D. Winkler, Ph.D. (“Winkler Decl.”)
1003	<i>Curriculum Vitae</i> of Dr. Jeffrey D. Winkler
1004	U.S. Patent No. 8,497,393 to Batra, et al. (the “’393 patent”)
1005	<i>SteadyMed Ltd. v. United Therapeutics Corp.</i> , IPR2016-00006, Paper 82 (PTAB March 31, 2017) (“IPR2016-00006”)
1006	Prosecution History of the ’901 patent
1007	U.S. Patent No. 6,765,117 to Moriarty, et al. (the “’117 patent”)
1008	PCT Application No. WO 2005/007081 (“Phares”)
1009	Moriarty, R.M., et al., “The Intramolecular Asymmetric Pauson-Khand Cyclization as a Novel and General Stereoselective Route to Benzindene Prostacyclins: Synthesis of UT-15 (Treprostinil),” <i>J. Org. Chem.</i> Vol. 69, No. 6, 1890-1902 (2004) (“Moriarty”)
1010	Wiberg, K., <i>Laboratory Technique in Organic Chemistry</i> (1960), p.112 (“Wiberg”)
1011	Schoffstall, A.M. et al., <i>Microscale and Miniscale Organic Chemistry Laboratory Experiments</i> , 2d ed. (2004) pp. 200-202 (“Schoffstall”)
1012	Certified English translation of Japanese Patent App. No. 56- 122328A to Kawakami, et al. (“Kawakami”)
1013	Ege, S., <i>Organic Chemistry Second Edition</i> , Ch. 14 Carboxylic Acids and Their Derivates I. Nucleophilic Substitution Reactions at the Carbonyl Group (1989) pp. 543-547 (“Ege”)
1014	U.S. Patent No. 4,306,075 to Aristoff (the “’075 patent”)
1015	Declaration of Sylvia Hall-Ellis, Ph.D.
1016	Prosecution History of the ’393 patent

Exhibit No.	Description of Document
1017	Reply Declaration of Jeffrey D. Winkler, Ph.D.
1018	Deposition transcript of Rodolfo Pinal, dated February 10, 2021
1019	Gao, K., "Synthesis of A-Galceramides, (-)-Treprostinil, and Design and Synthesis of Anti-Viral Agents," Thesis submitted as partial fulfillment of the requirements for the degree of Doctor Of Philosophy in Chemistry in the Graduate College of the University of Illinois at Chicago, 2006
1020	Parks, B.W., et al., "Convenient Synthesis of 6,6-Bicyclic Malonamides: A New Class of Conformationally Preorganized Ligands for f-Block Ion Binding," J. Org. Chem., 71:9622-27 (2006)
1021	Hanessian, S., et al., "Structure-Based Organic Synthesis of a Tricyclic N-Malayamycin Analogue," J. Org. Chem., 71:9807-17 (2006)
1022	Frost, J.M., et al., "Synthesis and Structure – Activity Relationships of 3,8-Diazabicyclo[4.2.0]octane Ligands, Potent Nicotinic Acetylcholine Receptor Agonists," J. Med. Chem., 49:7843-53 (2006)
1023	Regan, J., et al., "Quinol-4-ones as Steroid A-Ring Mimetics in Nonsteroidal Dissociated Glucocorticoid Agonists," J. Med. Chem., 49:7887-96 (2006)
1024	Paulekuhn, G.S., et al., "Trends in Active Pharmaceutical Ingredient Salt Selection based on Analysis of the Orange Book Database," J. Med. Chem., 50:6665-72 (2007)
1025	Mak, K.K.W., et al., "Mannich Reactions in Room Temperature Ionic Liquids (RTILs): An Advanced Undergraduate Project of Green Chemistry and Structural Elucidation," J. Chem. Ed., 83(6):943-46 (2006)
1026	Supplemental Materials to Mak, K.K.W., et al., "Mannich Reactions in Room Temperature Ionic Liquids (RTILs): An Advanced

Exhibit No.	Description of Document
	Undergraduate Project of Green Chemistry and Structural Elucidation," J. Chem. Ed., 83(6):943-46 (2006)
1027	Baar, M.R., et al., "Enantiomeric Resolution of ( $\pm$ )-Mandelic Acid by (1 <i>R</i> ,2 <i>S</i> )-(-)-Ephedrine," J. Chem. Ed., 82(7):1040-42 (2005)
1028	Supplemental Materials for Baar, M.R., et al., "Enantiomeric Resolution of ( $\pm$ )-Mandelic Acid by (1 <i>R</i> ,2 <i>S</i> )-(-)-Ephedrine," J. Chem. Ed., 82(7):1040-42 (2005)
1029	Brigandi, L.M., et al., "Synthesis and Analysis of Copper Hydroxy Double Salts," J. Chem. Educ., 82(11):1662 (2005)
1030	Supplemental Material for Online Publication for Brigandi, L.M., et al., "Synthesis and Analysis of Copper Hydroxy Double Salts," J. Chem. Educ., 82(11):1662 (2005)
1031	Hamilton, "Experiment #5: Resolution of ( <i>R,S</i> )-1-Phenylethylamine via Diastereoisomer formation with (2 <i>R</i> ),(3 <i>R</i> )-Tartaric Acid," Laboratory Manual for Chemistry 202, Organic Chemistry Laboratory I at Mount Holyoke College (2006)
1032	Yadav, J.S., et al., "A concise and stereoselective synthesis of both enantiomers of altholactone and isoaltholactone," Tetrahedron Letters, 44:5831-33 (2003)
1033	Takadoi, M., et al., "Synthetic studies of himbacine, a potent antagonist of the muscarinic M <sub>2</sub> subtype receptor 1. Stereoselective total synthesis and antagonistic activity of enantiomeric pairs of himbacine and (2' <i>S</i> ,6' <i>R</i> )-diepihimbacine, 4-epihimbacine, and novel himbacine congeners," Tetrahedron 58 (2002) 9903–23
1034	Berge, S.M., et al., "Pharmaceutical Salts," J. Pharm. Scis., 66(1):1-19 (1977)

Exhibit No.	Description of Document
1035	Excerpts from Loewenthal, H.J.E., et al., A Guide for the Perplexed Organic Experimentalist, Chapter 4: Running Small-scale Reactions in the Research Laboratory, pp. 87-119, 2d ed. (1990)
1036	Heidelberger, M., An Advanced Laboratory Manual of Organize Chemistry (1928)
1037	Product Information for Remodulin (2006) (“Remodulin Label”)
1038	Excerpt from Hawley’s Condensed Chemical Dictionary, 15th ed. (2007)
1039	Refiled Declaration of Jeffrey D. Winkler, Ph.D. (Ex. 1002)
1040	Signature page to Ex. 1018 Deposition transcript of Rodolfo Pinal, dated February 10, 2021
1041	Declaration of Deepa Kannappan in Support of Motion for <i>Pro Hac Vice</i> Admission
1042	Biography of Deepa Kannappan

Dated: April 15, 2021

Respectfully submitted,

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