

Petition for *Inter Partes Review* of
U.S. Patent No. 9,604,901 B2

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIQUIDIA TECHNOLOGIES, INC.,

Petitioner

v.

UNITED THERAPEUTICS CORPORATION,

Patent Owner

U.S. Patent No. 9,604,901

Issue Date: March 28, 2017

Title: Process to Prepare Treprostinil, the Active Ingredient in Remodulin®

PETITION FOR *INTER PARTES* REVIEW
OF U.S. Patent No. 9,604,901

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EXHIBITS

| Exhibit No. | Description of Document |
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| 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 |

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