

# LAWRENCE A. VILLANUEVA, PH.D.

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## LEGAL AND TECHNICAL EXPERIENCE:

**Present:** Shareholder, *Gardner Groff Greenwald & Villanueva, P.C.* My practice includes patent prosecution and opinion drafting, with emphasis on chemistry and biotechnology. Specific areas of expertise include pharmaceutical, catalyst, inorganic, and polymer chemistry.

**1996-1998:** Science Advisor, *Needle & Rosenberg, P.C.*; **1998-2001:** Patent Agent, *Needle & Rosenberg, P.C.*; **2001-2005:** Associate, *Needle & Rosenberg, P.C.* Counsel corporate, academic, and government clients with respect to maximizing value from their intellectual property portfolio. Further responsibilities include preparing and prosecuting U.S. and foreign chemical and biotech patent applications, analyzing and drafting patentability, invalidity, non-infringement opinions; and negotiating and preparing licenses, confidentiality agreements, and material transfer agreements.

**1993-1996:** Post-Doctoral Fellow, *Emory University.* Conduct research in the areas of synthetic organic and organometallic chemistry, with emphasis on the synthesis of enantiomerically pure natural products using transition metal complexes.

## EDUCATION:

Georgia State University, Atlanta, Georgia: J.D., 2001

University of Florida, Gainesville, Florida: Ph.D. in Organic Chemistry, 1993

Wake Forest University, Winston-Salem, North Carolina: B.S. Chemistry/minor in Biology, 1989

## PUBLICATIONS:

"( $\eta^3$ -Pyranyl)TpMo (CO)<sub>2</sub> Complexes as Chiral Scaffolds for the Enantiocontrolled Construction of 2, 3, 6-Trisubstituted Dihydropyrans (Tp = Trispyrazolylborate)," J. Yin, I. Llorente, L.A. Villanueva and L. Liebeskind, *J. Am.Chem.Soc.* 2000.

"The Preparation of Dicarbonyl[hydridotris (1-pyrazolyl) borato] ( $\eta^3$ -allyl) molybdenum Complexes Bearing Electron-donating Substituents (1-tert-Butyldimethylsilyloxy-, 1-Alkoxy-, and 1-Acetoxy-) Via the Nucleophilic Addition of Mo(CO)<sub>3</sub> to Enals and Enones," *Organometallics* 1996.

"The Synthesis and Characterization of Stable Cationic TpMo(CO)(NO)( $\eta^3$ -allyl) Complexes," L.A. Villanueva, Y.D. Ward, R.J. Lachicotte, and L.S. Liebeskind, *Organometallics* 1996.

"Stereocontrolled Oxidative Addition of Zerovalent Molybdenum To Enantiomerically Pure Allylic Acetates With Either Inversion or Retention at the Stereogenic Center," Y.D. Ward, L.A. Villanueva, G.D. Allred, and L.S. Liebskind, *J. Am. Chem. Soc.* 1996.

"The Configuration Liability of ( $\eta^3$ -Allyl)(dicarbonyl) [hydridotris (1-pyrazoyl)borato] molybdenum Complexes Bearing Substituents at the Termini: Thermodynamic Preference for the Anti Stereoisomer," Y.D. Ward, L.A. Villanueva, S.C. Payne, G.D. Allred, and L.S. Liebskind, *Organometallics* 1995.

"The Synthesis, Characterization, and X-ray Crystal Structure Analyses of Monomeric and Dimeric Palladium (II) Amide Complexes," L.A. Villanueva, K.A. Abboud, and J.M. Boncella, *Organometallics* 1994.

"Reactions of Small Unsaturated Electrophiles with trans-(Me<sub>3</sub>P)<sub>2</sub>Pd(Ph)(NHPH)," L.A. Villanueva and J.M. Boncella, *J. Orgmet. Chem.* 1994.

"Structure of a Phosphazene-Aniline Mixture," K.A. Abboud, L.A. Villanueva, and J.M. Boncella, *Acta Cryst.* 1993. American Chemical Society Florida Meeting (5/93)

"Reactions of Palladium Amide Complexes with Dimethyl Acetylenedicarboxylate. Palladium Mediated C-N Bond Formation," L.A. Villanueva, K.A. Abboud and J.M. Boncella, *Organometallics* 1992.

"Synthesis and Characterization of trans-(Me<sub>3</sub>P)<sub>3</sub>Pd(C<sub>6</sub>H<sub>4</sub>C(H)=NPr<sup>i</sup>)(NHPH), X-ray Crystal Structure Analysis of [Me<sub>3</sub>P]<sub>3</sub>Pd(C<sub>6</sub>H<sub>4</sub>C(H)=NPr<sup>i</sup>) [BF<sub>4</sub>]," L.A. Villanueva, K.A. Abboud, and J.M. Boncella, *Organometallics* 1991.

### **PRESENTATIONS:**

"The Enantiocontrolled Synthesis of Substituted Piperidines and Tetrahydropyrans Using Molybdenum Complexes of Heterocycles," 1995 International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, L.S. Liebeskind, L.A. Villanueva, A. Ericsson, C. Rachita, and Y.D. Ward.

"Synthesis of Phosphinimines via Palladium Nitrene Intermediates," L.A. Villanueva, J.P. Roth, K.A. Abboud and J.M. Boncella, American Chemical Society National Meeting, San Diego, California, 1994.

"Preparation of Phosphazene Complexes by Way of a Palladium Nitrene Intermediate," L.A. Villanueva, K.A. Abboud, and J.M. Boncella, American Chemical Society, Orlando, Florida, 1993.

"The Reactivity of trans-Pd(C<sub>6</sub>H<sub>4</sub>CH=NPh)(NHR)(PMe<sub>3</sub>)<sub>2</sub> with Activated Acetylenes and Their Ability to Facilitate C-N Bond Formation," L.A. Villanueva, K.A. Abboud and J.M. Boncella, American Chemical Society National Meeting, San Francisco, California, 1992.

"The Synthesis of Palladium- and Ruthenium-Amido Complexes and Their Reactivity with Small, Unsaturated Organic Molecules," L.A. Villanueva, T.M. Eve, B. Rickman, K.A. Abboud and J.M. Boncella, American Chemical Society National Meeting, San Francisco, California, 1992.

"Synthesis, Characterization, and Reactivity of Palladium-Amido Complexes," L.A. Villanueva, K.A. Abboud and J.M. Boncella, American Chemical Society, Atlanta, Georgia, 1991.

"Synthesis, Characterization, and Reactivity of Palladium-Amido Complexes," L.A. Villanueva, K.A. Abboud and J.M. Boncella, Florida Catalysis Conference, Palm Coast, Florida, 1991.

**PROFESSIONAL MEMBERSHIPS:**

State Bar of Georgia  
Intellectual Property Law section  
American Bar Association  
Intellectual Property Law section  
American Chemical Society

**ADMISSIONS:**

U.S. Patent & Trademark Office (Reg. No. 43,968)  
Georgia Supreme Court  
Georgia Court of Appeals  
Georgia Superior Court  
United States District Court Northern District of Georgia  
United States District Court Middle District of Georgia