

Wenjun Tang, Ph.D.

RESEARCH INTERESTS

- ❖ Design and development of novel, efficient, and practical asymmetric catalytic reactions
- ❖ Total synthesis of complex and biologically active natural products
- ❖ Development of efficient, economical, and green chemical processes for pharmaceutically important molecules

PROFESSIONAL EXPERIENCE

- 2011.07-present **Professor**, *State Key Laboratory of Bioorganic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, P. R. China*
- 2009-2011 **Principal Scientist**, *Department of Chemical Development, Boehringer Ingelheim Pharmaceuticals, Inc. Connecticut, USA*
- 2005-2009 **Senior Scientist**, *Department of Chemical Development, Boehringer Ingelheim Pharmaceuticals, Inc. Connecticut, USA*
- 2003-2005 **Postdoctoral Fellow**, *Organic Chemistry, The Scripps Research Institute, USA*, Advisor: Professor K. C. Nicolaou

EDUCATION

- 1998-2003 Ph. D., Organic and Organometallic Chemistry, The Pennsylvania State University
Advisor: Professor Xumu Zhang
- 1995-1998 M.S., Organic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences
Advisor: Professor Dawei Ma
- 1991-1995 B. Eng., Pharmaceutical Engineering, East China University of Sciences and Technology

MAJOR AWARDS

- ❖ “Hundreds Plan”, 2011, Chinese Academy of Sciences
- ❖ Excellence in Action Award, 2010, Boehringer Ingelheim Pharmaceuticals, Inc.
- ❖ President’s Award for Individual Excellence, 2009, Boehringer Ingelheim Pharmaceuticals, Inc
- ❖ Dalalian Major Fellowship, 2001-2002, The Pennsylvania State University

PUBLICATIONS

1. “A Practical Asymmetric Synthesis of Isopropyl (1*R*,2*S*)-Dehydrocoronamate” **Wenjun Tang**,* Xudong Wei, Nathan K. Yee, Nitinchandra Patel, Heewon Lee, and Chris H. Senanayake, *Org. Proc. Res. Dev.* ASAP.
2. “Efficient Monophosphorus Ligands for Palladium-Catalyzed Miyaura Borylation” **Wenjun Tang**,* Santosh Keshipeddy, Yongda Zhang, Xudong Wei, Jolaine Savoie, Nitinchandra D. Patel, Nathan K. Yee, and Chris H. Senanayake *Org. Lett.* **2011**, *13*, 1366-1369.
3. “A Mild Palladium-Catalyzed Suzuki Coupling Reaction of Quinoline Carboxylates with Boronic Acid” Wenjie Li,* Joe J. Gao, Yongda Zhang, **Wenjun Tang**, Heewon Lee, Keith R. Fandrick, Bruce Lu, and Chris H Senanayake *Adv. Syn. Cat.* **2011**, *353*, 1671-1675.
4. “Dihydrobenzooxaphosphole-Based Monophosphorus Ligands for Palladium-Catalyzed Amination Reactions” Sonia Rodriguez,* Bo Qu, Nizar Haddad, Diana Reeves, **Wenjun Tang**,* Dhileepkumar Krishnamurthy and Chris H. Senanayake *Adv. Syn. Cat.* **2011**, *353*, 533-537
5. “A General and Special Catalyst for Suzuki-Miyaura Coupling Processes” **Wenjun Tang**,* Andrew G. Capacci, Xudong Wei, Wenjie Li, Andre White, Nitinchandra D. Patel, Jolaine Savoie, Joe J. Gao, Sonia Rodriguez, Bo Qu, Nizar Haddad, Bruce Z. Lu, Dhileepkumar Krishnamurthy, Nathan K. Yee and Chris H. Senanayake, *Angew. Chem., Int. Ed.* **2010**, *49*, 5879-5883. *Highlighted as “Synfact of the month” by Synfacts in Nov. 2010.*

6. "Copper Catalyzed Asymmetric Propargylation of Aldehydes" Daniel R. Fandrick,* Keith R. Fandrick, Jonathan T. Reeves, Zhulin Tan, **Wenjun Tang**, Andrew G. Capacci, Sonia Rodriguez, Jinhua J. Song, Heewon Lee, Nathan K. Yee and Chris H. Senanayake, *J. Am. Chem. Soc.* **2010**, *132*, 7600-7601.
7. "Novel and Efficient Chiral Bisphosphorus Ligands for Rhodium-Catalyzed Asymmetric Hydrogenation" **Wenjun Tang**,* Andrew G. Capacci, Andre White, Shengli Ma, Sonia Rodriguez, Bo Qu, Jolaine Savoie, Nitinchandra Patel, Xudong Wei, Nizar Haddad, Nelu Grinberg, Nathan K. Yee, Dhileep Krishnamurthy, and Chris H. Senanayake, *Org. Lett.* **2010**, *12*, 1104-1107. *Highlighted by Synfacts.*
8. "Novel, Tunable, and Efficient Chiral Bis(dihydrobenzoxaphosphole) Ligands for Asymmetric Hydrogenation" **Wenjun Tang**,* Bo Qu, Andrew Capacci, Sonia Rodriguez, Xudong Wei, Nizar Haddad, Bikashandarkoil Narayanan, Shengli Ma, Nelu Grinberg, Nathan K. Yee, and Chris H. Senanayake, *Org. Lett.* **2010**, *12*, 176-179.
9. "Chromatographic and Spectroscopic Studies on the Chiral Recognition of Sulfated beta-Cyclodextrin as Chiral Mobile Phase Additive." Shengli Ma, Sherry Shen, Nizar Haddad, **Wenjun Tang**, Jing Wang, Heewon Lee, Nathan Yee, Chris Senanayake, Nelu Grinberg,* *J. Chromatography A*, **2009**, *1216*, 1232-1240.
10. "A Facile and Practical Synthesis of *N*-Acetyl Enamides" **Wenjun Tang**,* Andrew Capacci, Max Sarvestani, Xudong Wei, Nathan K. Yee, and Chris H. Senanayake, *J. Org. Chem.* **2009**, *74*, 9528-9530.
11. "Formation of 2-Trifluoromethylphenyl Grignard Reagent via Magnesium-Halogen exchange: Process Safety Evaluation and Concentration Effect" **Wenjun Tang**,* Max Sarvestani,* Xudong Wei, Nitinchandra Patel, Bikshandarkoil Narayanan, Laurence J. Nummy, Denis Byrne, Heewon Lee, Nathan Yee, and Chris H. Senanayake, *Org. Proc. Res. Dev.* **2009**, *13*, 1426-1430.
12. "Development of a Preparative-Scale Asymmetric Synthesis of (R)-p-Tolyl Methyl Sulfoxide for Use in a One-Pot Synthesis of a Drug Intermediate Containing a Trifluoromethyl-Substituted Alcohol Functionality," Zhengxu Han,* Jinhua J. Song, Nathan K. Yee, Yibo Xu, **Wenjun Tang**, Jonathan T. Reeves, Zhulin Tan, Xiao-Jun Wang, Bruce Lu, Dhileepkumar Krishnamurthy, Chris H. Senanayake, *Org. Proc. Res. Dev.* **2007**, *11*, 605-608.
13. "Structure toxicity relationships of synthetic azaspiracid-1 and analogs in mice," Emiko Ito, Michael O. Frederick, Theocharis V. Koftis, **Wenjun Tang**, Goran Petrovic, Taotao Ling, and K. C. Nicolaou,* *Harmful Algae* **2006**, *5*, 586-591.
14. "Total synthesis and structural elucidation of azaspiracid-1. Final assignment and total synthesis of the correct structure of azaspiracid-1," K. C. Nicolaou,* Theocharis V. Koftis, Stepan Vyskocil, Goran Petrovic, **Wenjun Tang**, Michael O. Frederick, David Y.-K. Chen, Yiwei Li, Taotao Ling, and Yoichi M. A. Yamada, *J. Am. Chem. Soc.* **2006**, *128*, 2859-2872.
15. "Total synthesis and structural elucidation of azaspiracid-1. Synthesis-based analysis of originally proposed structures and indication of their non-identity to the natural product," K. C. Nicolaou,* David Y.-K. Chen, Yiwei Li, Noriaki Uesaka, Goran petriovic, Theocharis V. Koftis, Federico Bernal, Michael O. Frederick, Mugesh Govindasamy, Taotao Ling, Petri M, Pihko, **Wenjun Tang**, and Stepan Vyskocil, *J. Am. Chem. Soc.* **2006**, *128*, 2258-2267.
16. "A catalytic asymmetric three-component 1,4-addition/aldol reaction: Enantioselective synthesis of the spirocyclic system of vannusal A," K. C. Nicolaou,* **Wenjun Tang**, Philippe Dagneau, and Raffaella Faraoni, *Angew. Chem., Int. Ed.* **2005**, *44*, 3874-3879.
17. Structural revision and total synthesis of Azaspiracid-1, part 2: Definition of the ABCD domain and total synthesis," K. C. Nicolaou,* Theocharis V. Koftis, Stepan Vyskocil, Goran Petrovic, Taotao Ling, Yoichi M. A. Yamada, **Wenjun Tang**, and Michael O. Frederick, *Angew. Chem., Int. Ed.* **2004**, *43*, 4312-4318.
18. "Structural revision and total synthesis of Azaspiracid-1, part 1: Intelligence Gathering and tentative proposal," K. C. Nicolaou,* Stepan Vyskocil, Theocharis V. Koftis, Yoichi M. A. Yamada, Taotao Ling, David Y.-K. Chen, **Wenjun Tang**, Goran Petrovic, Michael O. Frederick, Yiwei Li, and Masayuki Sasaki, *Angew. Chem., Int. Ed.* **2004**, *43*, 4318-4324.
19. "Synthesis of a new class of conformationally rigid phosphino-oxazolines: Highly enantioselective ligands for Ir-catalyzed asymmetric hydrogenation," Duan Liu, **Wenjun Tang**, and Xumu Zhang,* *Org. Lett.* **2004**, *6*, 513-516.
20. "Enantioselective hydrogenation of tetrasubstituted olefines of cyclic β -(acylamino) acrylates" **Wenjun Tang**, Shulin Wu, and Xumu Zhang,* *J. Am. Chem. Soc.* **2003**, *125*, 9570-9571.
21. "A P-chiral-bisphosphine ligand for practical synthesis of β -aryl β -amino acids via asymmetric hydrogenation," **Wenjun Tang**, Weimin Wang, Yongxiang Chi, and Xumu Zhang,* *Angew. Chem., Int. Ed.* **2003**, *42*, 3509-3511.
22. "New chiral phosphorous ligands for enantioselective hydrogenation," **Wenjun Tang**, and Xumu Zhang,* *Chem. Rev.* **2003**, *103*, 3029-3069.
23. "Asymmetric hydrogenation of itaconic acid and enol acetate derivatives with the Rh-TangPhos catalyst," **Wenjun Tang**, Duan Liu, and Xumu Zhang,* *Org. Lett.* **2003**, *5*, 205-207.
24. "A new class of phospholane-oxazoline ligands for Ir-catalyzed asymmetric hydrogenation," **Wenjun Tang**, Weimin Wang, and Xumu Zhang,* *Angew. Chem., Int. Ed.* **2003**, *42*, 943-946.
25. "Aromatic nucleophilic substitution or CuI-catalyzed coupling route to Martinellie Acid," Dawei Ma,* Chengfeng Xia, Jiqing Jiang, Jianhua Zhang, and **Wenjun Tang**, *J. Org. Chem.* **2003**, *68*, 442-451.
26. "Highly enantioselective hydrogenation of enol acetates catalyzed by Ru-TunaPhos complexes," Shulin Wu, Weimin Wang, **Wenjun Tang**, Min Lin, and Xumu Zhang,* *Org. Lett.* **2002**, *4*, 4495-4497.

27. "Highly efficient synthesis of chiral beta-amino acid derivatives via asymmetric hydrogenation," **Wenjun Tang**, and Xumu Zhang,* *Org. Lett.* **2002**, *4*, 4159-4161.
28. "A practical synthesis of 2-amino-2'-hydroxy-1,1'-binaphthyl (NOBIN)," Karsten Korber, **Wenjun Tang**, Xinquan Hu, and Xumu Zhang,* *Tetrahedron Lett.* **2002**, *43*, 7163-7165.
29. "An ortho-substituted BIPHEP ligand and its applications in Rh-catalyzed hydrogenation of cyclic enamides," **Wenjun Tang**, Yongxiang Chi, and Xumu Zhang,* *Org. Lett.* **2002**, *4*, 1695-1698.
30. "A chiral 1,2-bisphospholane ligand with a novel structural motif: Applications in highly enantioselective Rh-catalyzed hydrogenations," **Wenjun Tang**, and Xumu Zhang,* *Angew. Chem., Int. Ed.* **2002**, *41*, 1612-1614.
31. "Highly effective chiral ortho-substituted BINAPO ligands (o-BINAPO): Applications in Ru-catalyzed asymmetric hydrogenations of beta-aryl-substituted beta-(acylamino)acrylates and beta-keto esters," Yong-Gui Zhou, **Wenjun Tang**, Wenbo Wang, Wenge Li, and Xumu Zhang,* *J. Am. Chem. Soc.* **2002**, *124*, 4952-4953.
32. "A new chiral ruthenium complex for catalytic asymmetric cyclopropanation," **Wenjun Tang**, Xinquan Hu, and Xumu Zhang,* *Tetrahedron Lett.* **2002**, *43*, 3075-3078.
33. "General and stereospecific route to 9-substituted, 8,9-disubstituted, and 9,10-disubstituted analogues of benzolactam-V8," Dawei Ma,* **Wenjun Tang**, Alan P. Kozikowski, Nancy E. Lewin, and Peter M. Blumberg, *J. Org. Chem.* **1999**, *64*, 6366-6373.
34. "Stereospecific synthesis of 9-substituted benzolactam-V8 from L-tyrosine via orientation transfer of aromatic nitration," Dawei Ma,* and **Wenjun Tang**, *Tetrahedron Lett.* **1998**, *39*, 7369-7372.

BOOK CHAPTERS

1. "The other bisphosphine ligands for enantioselective alkene hydrogenation," Yongxiang Chi, **Wenjun Tang**, and Xumu Zhang, In Book "Handbook of Homogeneous Hydrogenation", pa 853-882, Editor(s): De Vries, Johannes G.; Elsevier, Cornelis J., Wiley-VCH, Weinheim, Germany, **2007**.
2. "Rhodium-catalyzed asymmetric hydrogenation," Yongxiang Chi, **Wenjun Tang**, and Xumu Zhang, In Book "Modern Rhodium-Catalyzed Organic Reactions", pa 1-31, Editor: P. Andrew Evans, Wiley-VCH, Weinheim, Germany, **2005**.

DISSERTATIONS

1. "Development of efficient chiral ligands for asymmetric catalysis," **Wenjun Tang**, The Pennsylvania State University, **2003**.
2. "Synthetic studies of benzolactam V8 derivatives," **Wenjun Tang**, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, **1998**.

PATENTS

1. "Novel HIV integrase drugs and their synthetic processes" **Wenjun Tang** et al, provisional patent filed.
2. "Monophosphorus Ligands and Their Use In Cross-Coupling Reactions" 09-0517, **Wenjun Tang** et al, provisional patent filed.
3. "Novel Chiral Phosphorus Ligands" Bo Qu, Chris H. Senanayake, **Wenjun Tang**, Xudong Wei, Nathan K. Yee, PCT Int. Appl. (2011), 53pp. WO 2011056737
4. "Process for preparation of alkoxybromochloroarylquinolines from alkoxydichloroquinolines" Nitinchandra D. Patel, Chris H. Senanayake, **Wenjun Tang**, Xudong Wei, Nathan K. Yee, PCT Int. Appl. (2010), 29pp. WO 2010129451
5. "Process for preparation of (S)-3-[4-(benzyloxy)-3,5-dimethylphenyl]-2-[4-(2-oxo-4,5-dihydro-1H-benzo[d][1,3]diazepin-3(2H)-yl)piperidine-1-carbonyloxy]propanoic aci and related compounds." Nizar Haddad, Dhileepkumar Krishnamurthy, Diana C. Reeves, Chris H. Senanayake, **Wenjun Tang**, Nathan K. Yee, PCT Int. Appl. (2010), 24pp. WO 2010048138
6. "Synthesis of 3-aminotetrahydrofuran-3-carboxylic acid derivatives for use as medicaments," Zhengxu Han, Kai Gerlach, Dhileepkumar Krishnamurthy, Burkhard Matthes, Herbert Nar, Henning Priepeke, Annette Schuler-Metz, , Chris H. Senanayake, Peter Sieger, **Wenjun Tang**, Wolfgang Wienen, Yibo Xu, Nathan K. Yee, PCT Int. Appl. (2008), 178pp. WO 2008080891
7. "Processes for the preparation of glucopyranosyl-substituted benzyl or benzene derivatives," Matthias Eckhardt, Frank Himmelsbach, Xiao-Jun Wang, Xiufeng Sun, Li Zhang, **Wenjun Tang**, Dhileepkumar Krishnamurthy, Chris H. Senanayake, Zhengxu Han, PCT Int. Appl. (2006), 88pp. WO 2006120208
8. "Preparation of chiral cyclic amino acids and derivatives," Xumu Zhang and **Wenjun Tang**, US Pat. Appl. Publ. (2004), US 2004242889.
9. "P-Chiral phospholanes and phosphocyclic compounds and their use in asymmetric catalytic reactions" Xumu Zhang and **Wenjun Tang**, US Pat. Appl. Publ. (2004), US 2004229846.
10. "P-Chiral phospholanes and phosphocyclic compounds and their use in asymmetric catalytic reactions" Xumu Zhang and **Wenjun Tang**, PCT Int. Appl. (2003) WO 2003042135.