

*Curriculum Vitae***Li Deng**

Department of Chemistry
Brandeis University, MS 015
Waltham, MA 02454-9110
U.S.A.
Tel: (781)-736-2529
Fax: (781)-736-2516
e-mail: deng@brandeis.edu.

EDUCATION

Harvard University, American Cancer Society Postdoctoral Fellow, 1995-1998		
Harvard University	Ph.D.	1995
University of Wisconsin, Milwaukee, WI	M.S.	1990
Tsing Hua University, Beijing, P. R. China	B.S.	1987

PROFESSIONAL EXPERIENCE

Chair, Dept. of Chemistry, Brandeis University 2011-2014
Orrie Friedman Distinguished Professor of Chemistry 2005-present
Professor, Dept. of Chemistry, Brandeis University 2005-present
Associate Professor, Dept. of Chemistry, Brandeis University 2003-2005
Assistant Professor, Dept. of Chemistry, Brandeis University 1998-2003

RESEARCH INTERESTS

Catalysis and synthesis.

RESEARCH EXPERIENCE**American Cancer Society Postdoctoral Fellow, Harvard University 1995-1998**

Research Advisor: Professor Gregory L. Verdine (12/95-6/98)

Research Advisor: Professor George M. Whitesides (1/95-12/95)

Graduate Research, Harvard University and University of Illinois, Urbana, 1990-1994

Research Advisor: Professor Eric N. Jacobsen

Graduate Research, University of Wisconsin, Milwaukee: 1987-1990

Research Advisor: Professor James M. Cook

AWARDS, HONORS and SERVICES

Member, International Advisory Board, Chemical Record (published by Chemical Society of Japan), 2015-present
 Member, International Panel for on-site Assessment of Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, 2013
 Overseer Expert for Planning and Evaluation, Chinese Academy of Sciences, 2013-present
 Guest Editor, Proceeding of National Academy of Sciences, 2012
 Organizer of 1ST Japan-US Organocatalysis Symposium, 2012
 Member, International Advisory Board, Asian Journal of Organic Chemistry, 2012
 Visiting Professor, Nanyang Technological University, 2011
 Organizer of Asymmetric Organocatalysis Symposium in Pacificchem, 2010
 Ad Hoc Member, NIH Synthetic and Biological Chemistry B (SBCB) Study Section, June, 2006, October, 2010, October, 2014
 Member, NIH Special Panel (2010/01 ZRG1 BCMB-B), 2010
 Evaluator of the Japan GCOE Program (Tohoku University)
 Member, NIH Special Panel (2009/10 ZRG1 BCMB-B (03) M), 2009
 Member of Visiting Evaluation Committee from Oversea, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, 2008
 Chan Memorial Award in Organic Chemistry, 2008
 Visiting Professor, National University of Singapore, 2008
 Japan Society for the Promotion of Science (JSPS) Fellow, 2007
 Negishi-Brown Distinguished Lectureship, 2007
 Signature Lectureship, 9th International Symposium of Chinese Organic Chemists, 2006
 Member, Science Advisory Board, Center for Chemical Methodology and Library Development at Broad Institute (Harvard University-MIT), 2006-2010
 Alfred P. Sloan Research Fellow, Alfred P. Sloan Foundation 2003
 New Investigator Award, The Medical Foundation 1999
 Research Innovation Award, Research Corporation, 1998
 Postdoctoral Fellowship, American Cancer Society, 1995-1997
 University Graduate Fellowship, University of Illinois, 1991-1993

PUBLICATIONS

67. Yang, Z.; Deng, L. "Catalytic Asymmetric Direct Aldol Reaction of α -Alkyl Azlactones and Aliphatic Aldehydes" *Chemical Sciences* **2015**, in press.
66. Wu, Yongwei.; Hu, L.; Li, Zhe.; Deng, L. "Catalytic Asymmetric Umpolung Reactions of Imines" *Nature* **2015**, 523, 445-450.
65. Hu, L.; Lu, X.; Deng, L. "Catalytic Enantioselective Peroxidation of α , β -Unsaturated Aldehydes for the Asymmetric Synthesis of Biologically Important Chiral Endoperoxides" *J. Am. Chem. Soc.* **2015**, 137, 8400-8403.

- 64 Lu, X.; Deng L. "Hydrogen Bonding-Mediated Cooperative Organocatalysis by Modified Cinchona Alkaloids" in Cooperative Catalysis, Peters, R., Ed.; Wiley-VCH GmbH & Co. KGaA.: Boschstr, 12, 69469, Weinheim, Germany, 2015, Chapter 5, 145-169.
- 63 Lu, X.; Deng, L. "Catalytic Asymmetric Peroxidation of α,β -Unsaturated Nitroalkenes by a Bifunctional Organic Catalyst" *Org. Lett.* **2014**, *17*, 2358–2361.
- 62 Lee, J. H.; Deng, L. "Asymmetric approach toward chiral cyclohex-2-enones from anisoles via an enantioselective isomerization by a new chiral diamine catalyst" *J. Am. Chem. Soc.* **2012**, *134*, 18209-18212.
- 61 Wu Y.; Deng, L. "Asymmetric Synthesis of Trifluoromethylated Amines via Catalytic Enantioselective Isomerization of Imines" *J. Am. Chem. Soc.* **2012**, *134*, 14334–14337.
- 60 Singh, R.; Deng L. "Cinchona Alkaloid Organocatalysts" in Asymmetric Organocatalysis 2, Maruoka, K., Ed. *Science of Synthesis*, Georg Thieme Verlag KG: Stuttgart. New York, 2012, Chapter 2.1.2, 41-117.
- 59 Provencher, B.; Bartelson, K.; Liu, Y.; Deng, L. "Structural Study-Guided Development of Versatile Phase-Transfer Catalysts for Asymmetric Conjugate Additions of Cyanide" *Angew. Chem. Int. Ed.* **2011**, *50*, 10565-10569. (Designated as a "Hot Paper").
- 58 Wu, Y.; Singh, R.; Deng, L. "Asymmetric Olefin Isomerization via Proton Transfer Catalysis with an Organic Molecule" *J. Am. Chem. Soc.* **2011**, *133*, 12458-12461.
- 57 Campbell, N.; Sun, B.; Deng, L. "Cinchona alkaloid-catalyzed enantioselective amination of α,β -unsaturated ketones: an asymmetric approach to 2-pyrazoline" *Advanced Synthesis & Catalysis* **2011**, *353*, 3123-3128..
- 56 Bartelson, K.; Singh, R.; Foxman, B. F.; Deng, L. "Catalytic Asymmetric [4+2] Additions with Aliphatic Nitroalkenes" *Chemical Sciences* **2011**, *2*, 1940-1944.
- 55 Liu, Y.; Provencher, B.; Bartelson, K.; Deng, L. "Asymmetric Darzens Reaction with a Bifunctional Phase Transfer Catalyst" *Chemical Sciences* **2011**, *2*, 1301-1304.
- 54 Li, H.; Chen, Y. G.; Deng, L. "Cinchona Alkaloids" in Privileged Catalysts and Ligands in Asymmetric Catalysis, Zhou, Q.-L., Ed.; Wiley-VCH Verlag&Co. KGaA.: Boschstr, Weinheim, Germany, 2011, Chapter 10, 361-404.

- 53 “Asymmetric Vinylogous Aldol Reactions of Silyloxy Furans with a Chiral Organic Salt” Singh, R. P.; Foxman, B. F.; Deng L. *J. Am. Chem. Soc.* **2010**, 132, 9558-9560.
- 52 “Elucidation of the Active Conformation of Cinchona Alkaloid Catalyst and Chemical Mechanism of Alcoholysis of Meso Anhydrides,” Li, H.; Liu, X.; Wu, F.; Tang, L.; Deng, L. *PNAS*, **2010**, 107, 20625-20629.
- 51 Wang, Y.; Deng, L. “Asymmetric Acid-Base Bifunctional Catalysis with Organic Molecules” in *Catalytic Asymmetric Synthesis*, Ojima, I., Ed.; John Wiley & Sons Inc.: Hoboken, New Jersey 2010, Chapter 2.2B. 59-94.
- 50 “Asymmetric Total Synthesis of (-)-Plicatic Acid via a Highly Enantioselective and Diastereoselective Nucleophilic Epoxidation of Acyclic Trisubstituted Olefins,” Sun, B.; Hong, R.; Kang, Y.-B. *J. Am. Chem. Soc.* **2009**, 131, 10384-10385.
- 49 “Catalytic Asymmetric Amination of α -Substituted β -Keto Thioesters,” Liu, X.; Sun, B.; Deng, L. *Synlett*, **2009**, 1685-1689 (invited contribution for a cluster issue of bifunctional catalysis).
- 48 “Asymmetric Synthesis of β,γ -Unsaturated α -Amino Acids via Cinchona Alkaloid-Catalyzed Kinetic Resolution of Urethane-Protected α -Amino Acid *N*-Carboxyanhydrides (UNCAs),” Hang, J.; Deng, L. *Bioorganic and Medicinal Chemistry Letters*, **2009**, 19, 3856-3858 (invited contribution to Barbas SIP).
- 47 “Catalytic Asymmetric Conjugate Addition of Simple Alkyl Thiols to α,β -Unsaturated *N*-Acylated Oxazolidin-2-ones with Bifunctional Catalysts,” Liu, Y.; Sun, B.; Wang, B.; Matthew, W.; Deng L. *J. Am. Chem. Soc.* **2009**, 131, 418-419.
- 46 “Synthesis of Application of Chiral α -Amino Acids by Kinetic Resolution of Urethane-Protected α -Amino Acid *N*-Carboxyanhydrides with Modified Cinchona Alkaloid Catalysts,” Hang, J.; Ishii, Y.; Furukawa, Y.; Deng, L., Soloshonok, V. A.; Izawa, K. Ed., ACS Symposium Series 1009, American Chemical Society: Washington, DC 2009; 265-287.
- 45 “Catalytic Enantioselective Conjugate Additions with α,β -Unsaturated Sulfones,” Li, H.; Song, J.; Deng, L. *Tetrahedron*, **2009**, 65, 3139-3148. (invited contribution to DuBois TSIP).
- 44 “Asymmetric Aza-Michael Reactions of α,β -Unsaturated Ketones with Bifunctional Organic Catalysts,” Lu X.; Deng, L. *Angew. Chem. Int. Ed.* **2008**, 7710-7713.
- 43 “Catalytic Enantioselective Peroxidation of α,β -Unsaturated Ketones,” Lu, X.; Liu, Y.; Sun, B.; Cindric, B.; Deng, L. *J. Am. Chem. Soc.* **2008**, 130, 8134-8135.

- 42 "Enantioselective Diels-Alder Reactions of Simple α,β -Unsaturated Ketones with a Cinchona Alkaloid Catalyst," Singh, R. P.; Bartelson, K.; Wang, Y.; Su, H.; Lu, X.; Deng, L. *J. Am. Chem. Soc.* **2008**, *130*, 2422-2423.
- 41 "Asymmetric Diels-Alder Reactions of 2-Pyrones with Bifunctional Organic Catalysts," Wang, Y.; Li, H.; Wang, Y.-Q.; Liu, Y.; Foxman, B. M.; Deng, L. *J. Am. Chem. Soc.* **2007**, *129*, 6364-6365.
- 40 "An Approach to Skeletal Diversity Using Functional Group Pairing of Multifunctional Scaffolds" Comer E.; Deng, L.; Porco, J. A. Jr. *Organic Lett.* **2007**, *9*, 2123-2126.
- 39 "Asymmetric Mannich Reactions with in situ Generation of Carbamate-Protected Imines by an Organic Catalyst," Song, J.; Shih, H.; Deng, L. *Organic Lett.* **2007**, *9*, 603-606.
- 38 "Control of Diastereoselectivity in Tandem Asymmetric Reactions Generating Nonadjacent Stereocenters with Bifunctional Catalysis by Cinchona Alkaloids," Wang, B.; Wu, F.; Wang, Y.; Liu, X.; Deng, L. *J. Am. Chem. Soc.* **2007**, *129*, 768-769.
- 37 "Enantioselective Friedel-Crafts Reaction of Indoles with Carbonyls Catalyzed by Bifunctional Cinchona Alkaloids," Li, H.; Wang, Y.; Deng, L. *Organic Lett.* **2006**, *8*, 4063-4065.
- 36 "Enantioselective Cyanocarboxylation of Ketones with Chiral Base," Tian, S.-K.; Deng, L. *Tetrahedron*, **2006**, *62*, 11320-11330 (invited contribution to MacMillan TSIP).
- 35 "Asymmetric Friedel-Crafts Reaction of Indoles with Imines by an Organic Catalyst," Wang, Y.; Song, J.; Hong R.; Li, H.; Deng, L. *J. Am. Chem. Soc.* **2006**, *128*, 8156-8157.
- 34 "Asymmetric Synthesis of Chiral Aldehydes via Conjugate Additions with Bifunctional Organocatalysis by Cinchona Alkaloids," Wu, F.-H.; Ran, H.; Khan, J.; Deng, L. *Angew. Chem. Int. Ed.* **2006**, *45*, 4301-4305. (Designated as a "Hot Paper").
- 33 "The Mannich Reaction of Malonates with Simple Imines Catalyzed by Bifunctional Cinchona Alkaloids: Enantioselective Synthesis of β -Amino Acids," Song, J.; Wang, Y.; Deng, L. *J. Am. Chem. Soc.* **2006**, *128*, 6048-6049.
- 32 "Dual-Function Cinchona Alkaloid Catalysis: Catalytic Asymmetric Tandem Conjugate Addition-Protonation for the Direct Creation of Nonadjacent Stereocenters," Wang, Y.; Liu, X.; Deng, L. *J. Am. Chem. Soc.* **2006**, *128*, 3928-3930.

- 31 “Enantioselective Nitroaldol Reaction of α -Ketoesters Catalyzed by Cinchona Alkaloids,” Li, H.; Wang, B.; Deng, L. *J. Am. Chem. Soc.* **2006**, *128*, 732-733.
- 30 “Construction of Quaternary Stereocenters via Efficient and Practical Conjugate Additions to α,β -Unsaturated Ketones with a Chiral Organic Catalyst,” Wu, F.-H.; Li, H.; Hong, R.; Deng, L. *Angew. Chem. Int. Ed.* **2006**, *45*, 947-950.
- 29 “Catalytic Enantioselective Conjugate Additions with Vinyl Sulfones,” Li, H.; Song, J.; Liu, X.; Deng, L. *J. Am. Chem. Soc.* **2005**, *127*, 8948-8949.
- 28 "Catalytic Enantioselective Total Syntheses of Bisorbicillinolide, Bisorbicillinol and Bisorbibutenolide," Hong, R.; Chen, Y.; Deng, L. *Angew. Chem. Int. Ed.* **2005**, *44*, 3478-3481.
- 27 “Catalytic Construction of Nitrogen-Substituted Quaternary Stereocenter by Highly Enantioselective Amination with Chiral Catalyst Derived from Both Quinine and Quinidine,” Liu, X.; Li, H.; Deng, L. *Organic Lett.* **2005**, *8*, 167-169.
- 26 “Stereocontrolled Creation of Adjacent Quaternary and Tertiary Stereocenters via a Catalytic, Diastereoselective and Enantioselective Conjugate Addition,” Li, H.; Wang, Y.; Tang, L.; Wu, F.; Liu, X.; Guo, C.; Foxman, B.; Deng, L. *Angew. Chem. Int. Ed.* **2005**, *44*, 105-108 (designated as a “Very Important Paper (VIP)” paper).
- 25 “Highly Enantioselective Conjugate Addition of Malonate and β -Ketoester to Nitroalkenes: Asymmetric C-C Bond Formation via New Bifunctional Organic Catalysts Based on Cinchona Alkaloids,” Li, H.; Wang, Y.; Tang, L.; Deng, L. *J. Am. Chem. Soc.* **2004**, *126*, 9906-9907.
- 24 “Asymmetric Organic Catalysis with Modified Cinchona Alkaloids,” Tian, S.-K.; Chen, Y.; Hang, Jianfeng.; Tang, Liang.; McDaid, P.; Deng, L. *Accounts of Chemical Research* **2004**, *37*, 621-631 (invited contribution for a special issue of asymmetric organic catalysis).
- 23 “Dynamic Kinetic Resolution for Asymmetric Synthesis of α -Alkyl Amino Acids via Dual-Function Catalysis of Modified Cinchona Alkaloids,” Hang, J.; Deng, L. *Synlett*, **2003**, 1927-1930 (invited paper for cluster papers of organic catalysis).
- 22 “Asymmetric Alcoholysis of Cyclic Anhydrides,” Chen, Y.; McDaid, P.; Deng, L. *Chem. Review* **2003**, *103*, 2965-2984 (invited review article for a thematic issue of Enantioselective Catalysis).
- 21 “Catalytic Asymmetric Cyanosilylation of Ketones with Chiral Lewis Base,” Tian, S.-K.; Hong, R.; Deng, L. *J. Am. Chem. Soc.* **2003**, *125*, 9900-9901.

- 20 "Development of a Rapid, Room Temperature Dynamic Kinetic Resolution for Efficient Asymmetric Synthesis of α -Aryl Amino Acids," Hang, J.; Li, H.; Deng, L. *Organic Lett.* **2002**, *4*, 3321-3324.
- 19 "Dynamic Kinetic Resolution via Dual-Function Catalysis of Modified Cinchona Alkaloids: Asymmetric Synthesis of α -Hydroxy Carboxylic Acids," Tang, L.; Deng, L. *J. Am. Chem. Soc.* **2002**, *124*, 2870-2871.
- 18 "A Highly Enantioselective and General Conjugate Addition of Thiols to Cyclic Enones with an Organic Catalyst," McDaid, P.; Chen, Y.; Deng, L. *Angew. Chem. Int. Ed.* **2002**, *41*, 338-340. *Angew. Chem.* **2002**, *114*, 348-350. (Designated as a "Hot Paper").
- 17 "Asymmetric Synthesis of α -Amino Acids via Cinchona Alkaloid-Catalyzed Kinetic Resolution of Urethane-Protected α -Amino Acid *N*-Carboxyanhydrides (UNCA)," Hang, J.; Tian, S.-K.; Tang, L.; Deng, L. *J. Am. Chem. Soc.* **2001**, *123*, 12696-12697.
- 16 "Parallel Kinetic Resolutions of Monosubstituted Succinic Anhydrides Catalyzed by a Modified Cinchona Alkaloid," Chen, Y.; Deng, L. *J. Am. Chem. Soc.* **2001**, *123*, 11302-11303.
- 15 "A Formal Catalytic Asymmetric Synthesis of (+)-Biotin with Modified Cinchona Alkaloids," Choi, C.; Tian, S.-K.; Deng, L. *Synthesis*, **2001**, 1737-1741 (invited contribution for a special issue of organic catalysis).
- 14 "A Highly Enantioselective Chiral Lewis Base-Catalyzed Asymmetric Cyanation of Ketones," Tian, S.-K.; Deng, L. *J. Am. Chem. Soc.* **2001**, *123*, 6195-6196.
- 13 "A Highly Enantioselective Catalytic Desymmetrization of Cyclic Anhydrides with Modified Cinchona Alkaloids," Chen, Y.; Tian, S.-K.; Deng, L. *J. Am. Chem. Soc.* **2000**, *122*, 9542-9543.

As Graduate Student and Postdoctoral Fellow

- 12 "Chemical Approach toward Understanding Base-Excision DNA Repair," Scharer, O. D.; Deng, L.; Verdine, G. L. *Current Opinion in Chemical Biology*, **1997**, *1*, 526-531.
- 11 "Unusually Strong Binding of a Designed Transition-State Analog to a Base-Excision DNA Repair Protein," Deng, L.; Scharer, O. D.; Verdine, G. L. *J. Am. Chem. Soc.* **1997**, *119*, 7865-7866.
- 10 "Enantiospecific Formation of *trans*-3-disubstituted tetrahydro- β -carboline by the Pictet-Spengler Reaction and Conversion of *cis*-diastereomers into their *trans* Counterparts by Scission of the C-1/N-2 Bond," Cox, E.D.; Harmaker, L.K.; Li, J.; Yu, P.; Czerwinski, K.M.; Deng, L.; Bennett, D. W.; Cook, J.M.; Waston, W.H.; Krawiec, M. *J. Org. Chem.* **1997**, *62*, 44-61.

- 9 “Self-Assembled Monolayers of Alkanethiolates Presenting Tri(propylene sulfoxide) Groups Resist the Adsorption of Protein,” Deng, L.; Mrksich, M.; Whitesides, G. M. *J. Am. Chem. Soc.* **1996**, *118*, 5136-5137.
- 8 “Enantioselective Catalytic Epoxidation of Cinnamate Esters,” Jacobsen, E. N.; Deng L.; Furukawa Y.; Martinez L. *Tetrahedron* **1994**, *50*, 4323-4334.
- 7 “Highly Enantioselective Epoxidation of Disubstituted Alkenes with Hydrogen Peroxide Catalyzed by Chloroperoxidase,” Allain, E. A.; Hager, L. P.; Deng, L.; Jacobsen, E. N. *J. Am. Chem. Soc.* **1993**, *115*, 4415-4416.
- 6 “A Practical, Highly Enantioselective Synthesis of the Taxol Side Chain via Asymmetric Catalysis,” Deng, L.; Jacobsen, E. N. *J. Org. Chem.* **1992**, *57*, 4320-4323.
- 5 “Mechanism Driven Trans Stereospecificity in the Pictet-Spengler Reaction. Stereospecific Formation of *trans*-1,2,3-trisubstituted-tetrahydro- β -carbolines by Condensation of N_b-Diphenyl Methyl Tryptophan Isopropyl Esters with Aldehydes,” Czerwinski, K. M.; Deng, L.; Cook, J. M. *Tetrahedron Lett.* **1992**, *33*, 4721-4724.
- 4 “Molecular Yardsticks. Rigid Probes To Define the Spatial Dimensions of the Benzodiazepine Receptor Binding Site,” Martin, M. J.; Trudell, M. L.; Arauzo, D.H.; Allen, M. S.; Laloggia, A. J.; Deng, L.; Shultz, C. A.; Tan, Y.; Bi, Y.; Narayanan, K.; Dorn, L. J.; Koehler, K. F.; Skolnick, P.; Cook, J. M. *J. Med. Chem.* **1992**, *35*, 4105-4117.
- 3 “Highly Enantioselective Epoxidation Catalysts Derived from 1,2-Diaminocyclohexane,” Jacobsen, E. N.; Zhang, W.; Muci, A. R.; Ecker, J. R.; Deng, L. *J. Am. Chem. Soc.* **1991**, *113*, 7063-7064.
- 2 “Stereospecificity in the Pictet-Spengler Reaction Kinetic vs Thermodynamic Control,” Deng, L.; Czerwinski, K.; Cook, J. M. *Tetrahedron Lett.* **1991**, *32*, 175-178
- 1 “Synthesis of Substituted 7,12-Dihydropyrido[3,2-b:5,4-b']diindoles: Rigid Planar Benzodiazepine Receptor Ligands with Inverse Agonist/Antagonist Properties,” Trudell, M. L.; Lifer, S. L.; Tan, Y.; Martin, M. J.; Deng, L.; Skolnick, P.; Cook J. M. *J. Med. Chem.* **1990**, *33*, 2412-2420.

ISSUED PATENTS

1. “Chiral Catalysts and Epoxidation Reactions Catalyzed Thereby,” Jacobsen, E.N.; Zhang, W.; Deng, L. U.S. Patent No. 5,627,739 issued 6/10/97.

2. "Chiral Catalysts and Epoxidation Reactions Catalyzed Thereby," Jacobsen, E.N.; Zhang, W.; Deng, L. U.S. Patent No. 5,663,393 issued 9/2/97.
3. "DNA Glycosylase Inhibitors and Uses Related Thereto," Verdine, G.L.; Deng, L. US Patent 6,369,237 issued 4/9/02.
4. "Catalytic Asymmetric Desymmetrization of Meso Compounds," Deng, L.; Chen, Y.; Tian, S.-K.. USPN 6,580,003, issued 6/17/03.
5. "Kinetic Resolutions of Chiral 2- and 3-Substituted Carboxylic Acids," Deng, L.; Hang, J.; Liang, T. USPN 6,743,914, issued 6/01/04.
6. "Kinetic Resolutions of Chiral 2- and 3-Substituted Carboxylic Acids," Deng, L.; Hang, J.; Liang, T. USPN 6562966, issued 5/13/06.
7. "Kinetic Resolutions of Chiral 2- and 3-Substituted Carboxylic Acids," Deng, L.; Hang, J.; Liang, T. USPN 6562967, issued 5/13/06.
8. "Kinetic Resolutions of Chiral 2- and 3-Substituted Carboxylic Acids," Deng, L.; Hang, J.; Liang, T. USPN 7,057,038, issued 6/06/06.
9. "Catalytic Asymmetric Desymmetrization of Meso Compounds," Deng, L.; Chen, Y.; Tian, S.-K.. USPN 7,060,840, issued 6/13/06.
10. "Highly Enantioselective Catalytic Cyanosilylation of Ketones with Modified Cinchona Alkaloids," Deng, L.; Tian, S.-K.. USPN 7,087,547 issued 7/18/06.

INVITED LECTURES

- 1) Pfizer Groton Research Center, Groton, Connecticut, 10/19/00
- 2) Merck Research Laboratories, Rahway, New Jersey, 11/20/00
- 3) Shanghai Institute of Organic Chemistry, Shanghai, China, 12/18/00
- 4) Fudan University, Shanghai, China, 12/22/00
- 6) Schering-Plough Research Institute, Union, New Jersey, 9/20/01
- 7) Sepracor Pharmaceuticals, Inc., Marlborough, Massachusetts, 1/24/02
- 8) Department of Chemistry, Penn. State University, 3/18/02
- 9) Department of Chemistry, University of Pittsburgh, 3/19/02
- 10) Department of Chemistry, University of Minnesota, 3/27/02
- 11) Department of Chemistry, North Dakota State University, 3/28/02

- 12) Enanta Pharmaceutical Company, Watertown, MA, 4/17/02
- 13) Boehringer Ingelheim Pharmaceutical Inc., Ridgefield, CT 06877-0368, 5/17/02
- 14) Gordon Research Conference on Stereochemistry, Rhode Island 6/02 (Salve Regina University)
- 15) Gordon Research Conference on Organic Reactions and Processes Rhode Island (Roger Williams University), 7/02
- 16) Department of Chemistry, Brandeis University, 9/9/02
- 17) Department of Chemistry and Chemical Biology, Harvard University, 9/23/02
- 18) Department of Chemistry, University of Wisconsin, Madison, 10/8/02
- 19) Department of Chemistry, University of Illinois, Urbana-Champaign, 10/9/02
- 20) Department of Chemistry, Boston University, 11/4/02
- 21) Department of Chemistry, University of California, Berkeley, 2/4/03
- 22) Department of Chemistry, Stanford University, 2/5/03
- 23) Merck Research Laboratories, Rahway, New Jersey, 3/14/03
- 24) Department of Chemistry, University of Cambridge, United Kingdom, 3/17/03
- 25) AstraZeneca, Loughborough, United Kingdom, 3/19/03
- 26) Pfizer, Sandwich, United Kingdom, 3/21/03
- 27) Eli Lilly, Brussels, Belgium, 3/24/03
- 28) GSK, Stevenage, United Kingdom, 3/26/03
- 29) Merck, Hoddesdon, United Kingdom, 3/27/03
- 30) Department of Chemistry, Ohio State University, 4/24/03
- 31) Department of Chemistry, Indiana University, 4/25/03
- 32) Plenary Lecture, The Sixth International Symposium on Process Development Chemistry and Technology, 4/27-30/03
- 33) Plenary Lecture, Albany Molecular Research Symposium, ACS Northeastern Section Meeting 6/18/03

- 34) GlaxoSmithKline, King of Prussia, PA, 7/10/03
- 35) Merck Frosst, Canada, 9/25/03
- 36) Department of Chemistry, Queen's University, Canada, 9/26/03
- 37) BMS, Process Department, Brunswick, NJ, 11/06/03
- 39) Department of Chemistry, Boston College, Chestnut Hill, 12/2/03
- 40) Department of Chemistry, University of Montreal, Montreal, Canada, 4/14/04
- 41) Department of Chemistry, McGill University, Montreal, Canada, 4/15/04
- 42) Johnson & Johnson, Raritan, NJ, 4/29/04
- 43) NSF Workshop of Organic Synthesis, New Hampshire, 6/10-14/2004
- 44) Kyoto University, Kyoto, Japan, 7/29/04
- 45) Osaka University, Osaka, Japan, 7/30/04
- 46) The 15th International Conference on Organic Synthesis (IUPAC ICOS-15)
Invited Lecture, Nagoya, Japan, 8/1-6/2004
- 47) Takeda Pharmaceutical Company, Osaka, Japan, 8/9/04
- 48) Fujisawa Pharmaceutical Company, Osaka, Japan, 8/10/04
- 49) Daiso Chemical Company, Osaka, Japan, 8/11/04
- 50) Invited Lecture, The 7th International Conference on Heteroatom Chemistry
(ICHAC-7), Shanghai, China, 8/20-25/2004
- 51) Department of Chemistry, Boston College, Chestnut Hill, 10/12/04
- 52) Department of Chemistry, University of Massachusetts-Lowell, 3/11/05
- 53) Department of Chemistry and Biochemistry, University of California, San Diego,
10/17/05
- 54) Department of Chemistry, Scripps Research Institute, La Jolla, 10/18/05
- 55) Department of Chemistry, University of New Mexico, Albuquerque, 11/11/05
- 56) Invited Lecture, Pacific Chem, Symposium in Organocatalytic Asymmetric
Synthesis, Hawaii, 12/15-20/05

- 57) University of Science and Technology of China, Hefei, 7/6/06
- 58) Invited Lecture, Sino-US Chemistry Professor Conference, 7/8/06-7/9/06
- 59) Plenary Lecture, ACS Symposium in Organocatalysis, San Francisco, 9/11/06
- 60) Max-Planck-Institut für Kohlenforschung, Mülheim, Germany, 10/6/06
- 61) Plenary Lecture, 45th Tutzing Symposium, Topic: Organocatalysis, Lake Stanberg, Germany, 10/8/06-10/11/2006
- 62) BMS, Wallingford, CT, 11/16/06
- 63) Signature Lecture, ISCO-9, Singapore, 12/17/06-12/21/06
- 64) Department of Chemistry, University of Chicago, 1/26/07
- 65) Department of Biochemistry, University of Texas Southwestern Medical Center at Dallas, 2/27/07
- 66) Department of Chemistry, Colorado State University, 4/2/07
- 67) Department of Biochemistry, University of South Florida, 4/5/07
- 68) Wyeth Cambridge Seminar 2007 Series, Cambridge, MA 5/15/07
- 69) Plenary Lecture, International Symposium of Orgnaocatalysis, Kyoto, Japan, 5/29/07
- 70) Daiso Chemical Company, Osaka, Japan, 5/31/07
- 71) Chinese University of Hong Kong, Hong Kong, China, 6/25/07
- 72) Hong Kong University of Science and Technology, Hong Kong, China, 6/26/07
- 73) University of Hong Kong, Hong Kong, China, 6/27/07
- 74) Shanghai Institute of Organic Chemistry, Shanghai, China, 7/2/07
- 75) Peking University, Beijing, China, 7/6/07
- 76) Eli Lilly, Indianapolis, 8/28/07
- 77) Negishi-Brown Distinguished Lectureship, Department of Chemistry, Purdue University, West Lafayette, Indiana, 8/30/07
- 78) Abbott Bioscience, Worcester, MA, 9/19/07

- 79) Institute of Chemical and Engineering Sciences (ICES), Singapore, 9/26/07
- 80) Nanyang Technological University, Singapore, 9/26/07
- 81) National University of Singapore, Singapore, 9/27/07
- 82) Plenary Lecture, 2nd ERA-Chemistry Flash Conference (Topic: "Catalysis without metal"), Évora, Portugal, 10/28/07-11/1/07
- 83) Invited lecture, International Chemical Conference in Taipei-2007, Taipei, 12/14/2007
- 84) JSPS Lectureship, Kyoto University, 2/21/08
- 85) JSPS Lectureship, Osaka University, 2/22/08
- 86) JSPS Lectureship, Kyusu University, 2/25/08
- 87) JSPS Lectureship, Nagasaki University, 2/26/08
- 88) JSPS Lectureship, Daiso Co., 2/28/08
- 89) JSPS Lectureship, Tokyo Institute of Technology, 3/3/08
- 90) JSPS Lectureship, RIKEN, 3/4/08
- 91) JSPS Lectureship, Tokyo University of Science, 3/5/08
- 92) JSPS Lectureship, Gakushuin University, 3/6/08
- 93) JSPS Lectureship, University of Tokyo, 3/7/08
- 94) JSPS Lectureship, Tohoku University, 3/10/08
- 95) JSPS Lectureship, Hokkaido University, 3/12/08
- 96) Schering-Plough Research Institute, Union, New Jersey, 5/6/08
- 97) Chan Memorial Award Lecture, ISCOG-10, Shanghai, 7/28/08-7/30/08
- 98) National University of Singapore, Visiting Professor Lecture-I, Singapore, 8/7/08
- 99) National University of Singapore, Visiting Professor Lecture-II, Singapore, 8/13/08
- 100) University of West Virginia, 3/4/09

- 101) Merck Boston, 4/29/09
- 102) Boston College, 9/29/09
- 103) Scripps Research Institute, La Jolla, California, 3/8/10
- 104) Dalian Institute of Chemical Physics, Dalian, China, 4/9/10
- 105) Harvard University, Jacobsen Symposium, Cambridge, MA, 2/20/10
- 106) Shanghai Institute of Organic Chemistry, Shanghai, China, 4/15/10
- 107) Signature Lecture
Inaugural International Conference on Molecular & Functional Catalysis,
Singapore National Institute of Chemistry, Singapore, 7/11-7/14, 2010
- 108) International Conference on Asymmetric Organocatalysis,
Max-Planck-Institut für Kohlenforschung, Mülheim, Germany, 7/14-7/17, 2010
- 109) Abbott laboratories,
Chicago, 9/10/2010
- 110) Pacificchem 2010, Symposium of Enantioselective Organocatalysis
Hawaii, 12/17/2010
- 111) University of Massachusetts, Boston, 2/25/2011
- 112) Ohio State University, Columbus, 3/17/2011
- 113) Wheaton College, Norton, MA, 4/20/2011
- 114) Plenary Lecture, 7th Sino-American Chemistry Professor Conference, Guiyang,
6/30/2011
- 115) Tsing Hua University, Beijing, 7/6/11
- 116) Nanyang Technological University, Singapore, 10/5/2011
- 117) National University of Singapore, Singapore, 10/12/2011
- 118) Wuhan University, Wuhan, China, 6/28/12
- 119) Central China Normal University, China, 6/29/12
- 120) Tsinghua University, Beijing, China, 6/30/12
- 121) Wuxi Pharma, Shanghai, China, 7/27/12

- 122) Plenary Lecture, 2nd International Conference of Molecular and Functional Catalysis, 7/30/2012
- 123) Summer School, National Natural Science Foundation, University of Science and Technology of China, Hefei, China, 8/3/12
- 124) Inaugural Japan-US Organocatalysis Symposium, Hawaii, 12/16/12
- 125) Nanyang Technological University, Singapore, 3/7/13
- 126) University of Iowa, Iowa City, 3/12/13
- 127) Merck Research Laboratories, New Jersey, 6/5/13
- 128) Keynote Lecture, 25th International Symposium in Chirality, 7/9/13
- 129) Wesleyan University, Middletown, CT, 9/27/2013
- 130) Asymmetric Synthesis and Catalysis Symposium at ACS Northeastern Regional Meeting, New Haven, CT, 10/24/2013
- 131) State University of New Jersey, Rutgers, New Jersey, 3/21/2014
- 132) Georgia State University, Atlanta, Georgia, 9/12/2014
- 133) University of Massachusetts, Lowell, Massachusetts, 11/14/2014
- 134) Invited Lecture, Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator: Symposium in Honor of Jin-Quan Yu, ACS National Meeting in Denver, 3/23/2015
- 135) Invited Lecture, The 39th Naito Conference, "The chemistry of organocatalysts", Sapporo, Hokkaido, Japan, 7/6/15
- 136) Invited Lecture, 19th Annual Green Chemistry & Engineering Conference, Bethesda, Maryland, 7/14/15
- 137) Hong Kong University of Science and Technology, 7/24/2015
- 138) Invited Lecture, Pacifichem 2015, Symposium of Enantioselective Organocatalysis, Hawaii, 12/18/2015

Reviewer for the following chemistry journals:

J. Am. Chem. Soc., Angewandte Chemie, Nature, Nature Chemistry, Nature Communication, Chemical Science, Organic Letters, J. Org. Chem., Tetrahedron, Tetrahedron Letters, Chem. Review, Accounts of Chemical Research, Advances in Synthesis & Catalysis, European Journal of Organic Chemistry, Chemistry, an European

Journal, Chemical Communications, Synlett, Chemistry, an Asian Journal, Inorganic Chemistry, Tetrahedron Asymmetry, Canadian Journal of Chemistry, Bioorganic and Medicinal Chemistry Letters.

Reviewer for the following granting agencies:

National Institute of Health, National Science Foundation of US, PRF, Research Corp., NSERC(National Science and Engineering Research Council-Canada), Innovation and Technology Commission (ITC) of Hong Kong, National Research Foundation (Singapore), Research Grant Council (Hong Kong).