

Naohiko Yoshikai

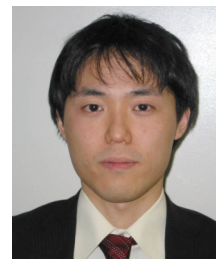
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Birth: February 20th, 1978, Tokyo, Japan

Education:

2005 Ph.D. (Chemistry)
Department of Chemistry, The University of Tokyo (Prof. Eiichi Nakamura)
2002 Visiting Student, Stockholm University (Prof. Jan-E. Bäckvall)
2000 B.S. (Chemistry)
Department of Chemistry, The University of Tokyo (Prof. Eiichi Nakamura)

Research and Professional Experience:

2005 - present Assistant Professor, Department of Chemistry, The University of Tokyo
2002 - 2005 Young Research Fellow of Japan Society for the Promotion of Science (JSPS)

Awards:

2009 Research Fellowship Award, National Research Foundation of Singapore
2008 Takasago International Corporation Award, Society of Synthetic Organic Chemistry of Japan
2008 Chemistry Innovation UT Global COE Lectureship
2007 Inoue Research Award for Young Scientist

Grants:

FY2008-2009 Grant-in-Aid for Scientific Research on Priority Areas (No. 460, Chemistry of Concerto Catalysis), MEXT, Japan
FY2008-2009 Grant-in-Aid for Scientific Research on Priority Areas (No. 461, Molecular Theory for Real Systems), MEXT, Japan
FY2007-2008 Grant-in-Aid for Young Scientists (B), MEXT, Japan
FY2007 Grant-in-Aid for Scientific Research on Priority Areas (No. 460, Chemistry of Concerto Catalysis), MEXT, Japan
FY2007 Grant-in-Aid for Scientific Research on Priority Areas (No. 461, Molecular Theory for Real Systems), MEXT, Japan

Publications:

24. Hydroxyphosphine Ligand for Nickel-Catalyzed Cross-Coupling through Nickel/Magnesium Bimetallic Cooperation, Yoshikai, N.; Matsuda, H.; Nakamura, E. *J. Am. Chem. Soc.*, accepted.
23. Enantioselective Copper-Catalyzed Allylic Substitution with Aminohydroxyphosphine Ligand, Yoshikai, N.; Miura, K.; Nakamura, E. *Adv. Synth. Catal.*, in press.
22. Iron-Catalyzed Chemoselective *ortho* Arylation of Aryl Imines by Directed C–H Bond Activation, Yoshikai, N.; Matsumoto, A.; Norinder, J.; Nakamura, E. *Angew. Chem., Int. Ed.* **2009**, *48*, 2925–2928.
21. Mechanistic Study of the Manganese-Catalyzed [2 + 2 + 2] Annulation of 1,3-Dicarbonyl Compounds and Terminal Alkynes, Yoshikai, N.; Zhang, S.-L.; Yamagata, K.; Tsuji, H.; Nakamura, E. *J. Am. Chem. Soc.* **2009**, *131*, 4099–4109.
20. Ligand Exchange as the First Irreversible Step in the Nickel-Catalyzed Cross-Coupling Reaction of Grignard Reagents, Yoshikai, N.; Matsuda, H.; Nakamura, E. *J. Am. Chem. Soc.* **2008**, *130*, 15258–15259.
19. Origin of the Regio- and Stereoselectivity of Allylic Substitution of Organocopper Reagents, Yoshikai, N.; Zhang, S.-L.; Nakamura, E. *J. Am. Chem. Soc.* **2008**, *130*, 12862–12863.
18. Iron-Catalyzed Direct Arylation through Directed C–H Bond Activation, Norinder, J.; Matsumoto, A.; Yoshikai, N.; Nakamura, E. *J. Am. Chem. Soc.* **2008**, *130*, 5858–5859.
17. Mechanism of Nucleophilic Substitution of Acyl Electrophiles using Lithium Organocuprates, Yoshikai, N.; Iida, R.; Nakamura, E. *Adv. Synth. Catal.* **2008**, *350*, 1063–1072.
16. Aminohydroxyphosphine Ligands for Copper-Catalyzed Enantioselective Conjugate Addition of Organozinc Reagents, Hajra, A.; Yoshikai, N.; Nakamura, E. *Org. Lett.* **2006**, *8*, 4153–4155.
15. Bimetallic Synergism in Alkyne Silylformylation Catalyzed by Cobalt-Rhodium Mixed-Metal Cluster, Yoshikai, N.; Yamanaka, M.; Ojima, I.; Morokuma, K.; Nakamura, E. *Organometallics* **2006**, *25*, 3867–3875.
14. Mechanism of Remote Conjugate Addition of a Lithium Organocuprate to a Polyconjugated Carbonyl Compound, Yoshikai, N.; Yamashita, T.; Nakamura, E. *Chem. Asian J.* **2006**, *1*, 322–330.
13. Unusual Homo-Coupling in the Reaction of Diorganocuprates with an Allylic Halide, Norinder, J.; Bäckvall, J. E.; Yoshikai, N.; Nakamura, E. *Organometallics* **2006**, *25*, 2129–2132.

12. Nickel-Catalyzed Cross-Coupling Reaction of Aryl Fluorides and Chlorides with Grignard Reagents under Nickel/Magnesium Bimetallic Cooperation, Yoshikai, N.; Mashima, H.; Nakamura, E. *J. Am. Chem. Soc.* **2005**, *127*, 17978–17979.
11. Mechanism of Remote Conjugate Addition of a Lithium Organocuprate to a Polyconjugated Carbonyl Compound, Yoshikai, N.; Yamashita, T.; Nakamura, E. *Angew. Chem., Int. Ed.* **2005**, *44*, 4721–4723.
10. Synergistic Dimetallic Effects in Propargylic Substitution Reaction Catalyzed by Thiolate-bridged Diruthenium Complex, Ammal, S. C.; Yoshikai, N.; Inada, Y.; Nishibayashi, Y.; Nakamura, E. *J. Am. Chem. Soc.* **2005**, *127*, 9428–9438.
9. Enantioselective Allylic Substitution of Cinnamyl Esters Catalyzed by Iridium-Chiral Aryl Phosphite Complex: Conspicuous Change in the Mechanistic Spectrum by a Counter Cation and Solvent, Kinoshita, N.; Marx, K. H.; Tanaka, K.; Tsubaki, K.; Kawabata, T.; Yoshikai, N.; Nakamura, E. *J. Org. Chem.* **2004**, *69*, 7960–7964.
8. L-shaped Three-center Two-electron (C-C-C)⁺ Bonding Array, Yoshikai, N.; Ammal, S. C.; Nakamura, E. *J. Am. Chem. Soc.* **2004**, *126*, 12941–12948.
7. Mechanism of Substitution Reaction on sp²-Carbon Center with Lithium Organocuprate, Yoshikai, N.; Nakamura, E. *J. Am. Chem. Soc.* **2004**, *126*, 12264–12265.
6. Theoretical Studies on Diastereo- and Enantioselective Rhodium-catalyzed Cyclization of Diazo Compound via Intramolecular C-H Bond Insertion, Yoshikai, N.; Nakamura, E. *Adv. Synth. Catal.* **2003**, *345*, 1159–1171.
5. On the Mechanism of "Higher-Order Cuprate", Alias Lipshutz Cuprate, Nakamura, E.; Yoshikai, N. *Bull. Chem. Soc. Jpn.* **2003**, *77*, 1–12.
4. Mechanism of C-H Bond Activation/C-C Bond Formation Reaction between Diazo Compound and Alkane Catalyzed by Dirhodium Tetracarboxylate, Nakamura, E.; Yoshikai, N.; Yamanaka, M. *J. Am. Chem. Soc.* **2002**, *124*, 7181–7192.
3. Carbozincation of Dipolar Trimethylenemethane. A New Route to Functionalized Organozinc Reagents, Nakamura, M.; Yoshikai, N.; Nakamura, E. *Chem. Lett.* **2002**, 146–147.
2. [3 + 3] Cycloaddition of Dipolar Trimethylenemethane with Active Methylene Compound, Nakamura, M.; Yoshikai, N.; Toganoh, M.; Nakamura, E. *Synlett* **2001**, 1030–1033.
1. Kinetic Reactivity of "Higher Order Cuprate" in S_N2 Alkylation Reaction, Nakamura, E.; Yamanaka, M.; Yoshikai, N.; Mori, S. *Angew. Chem., Int. Ed.* **2001**, *40*, 1935–1938.

Books

Nakamura, E.; Yoshikai, N. In *Chemistry of Organocopper Compounds*, Rappoport, Z.; Marek, I. Eds., John Wiley & Sons, in print.

Patents:

Nakamura, E.; Yoshikai, N.; Hajra, A. "Preparation of (optically active) tertiary phosphine compounds, their metal complexes, and their use for preparation of optically active compounds", Jpn. Kokai Tokkyo Koho (2007), JP2007314433

Nakamura, E.; Yoshikai, N. "Method for producing aryl compounds through coupling", PCT Int. Appl. (2006), WO2006085628

Invited Presentations:

October 2002	International Symposium on Modern Organocopper Chemistry, Dortmund, Germany
May 2006	1st Symposium of Young Researchers on "Advanced Molecular Transformations of Carbon Resources", Awaji-shima
October 2006	Banyu Pharmaceutical, Tsukuba, Japan
March 2007	1st Colloquium of Young Researchers on "Synergy of Elements", Fukuoka, Japan
July 2007	University of Montreal (Prof. Andre B. Charette), Montreal
July 2007	University of Wisconsin-Madison (Prof. Clark R. Landis), Madison, USA
July 2007	International Symposium on Molecular Theory for Real Systems, Kyoto, Japan
July 2007	International Symposium on Catalysis and Fine Chemicals 2007, Singapore
September 2008	Nanyang Technological University (Prof. Koichi Narasaka), Singapore
December 2008	Columbia University (Prof. James L. Leighton), New York, USA
December 2008	Boston College (Profs. Amir H. Hoveyda, Kian L. Tan), Boston, USA
December 2008	Massachusetts Institute of Technology (Prof. Timothy F. Jamison), Boston, USA
December 2008	University of Michigan (Prof. Melanie S. Sanford), Ann Arbor, USA
December 2008	University of Chicago (Prof. Hisashi Yamamoto), Chicago, USA
December 2008	University of Pennsylvania (Prof. Jeffrey W. Bode), Philadelphia, USA
March 2009	Annual Meeting of Chemical Society of Japan, Funabashi