

List of Publications (Dr. Hiroshi Naka)

Original Papers

1. Pd/TiO₂-Photocatalyzed Self-Condensation of Primary Amines to Afford Secondary Amines at Ambient Temperature
Lyu-Ming Wang, Kensuke Kobayashi, Mitsuhiro Arisawa, *Susumu Saito, *Hiroshi Naka
Org. Lett. Article ASAP (2018). (DOI: 10.1021/acs.orglett.8b03271)
2. Pd-Catalyzed β -Selective C–H Arylation of Thiophenes with Triarylimony Difluorides
Yuki Kitamura, Yuki Murata, Ayaka Oguri, Mio Matsumura, Naoki Kakusawa, *Hiroshi Naka, *Shuji Yasuike
Asian J. Org. Chem. in press (2018). (DOI: 10.1002/ajoc.201800654)
3. Photocatalytic N-Methylation of Amines over Pd/TiO₂ for the Functionalization of Heterocycles and Pharmaceutical Intermediates
Lyu-Ming Wang, Kellie Jenkinson, Andrew E. H. Wheatley, Keiko Kuwata, Susumu Saito, *Hiroshi Naka
ACS Sustainable Chem. Eng. **6**, 15419–15424 (2018).
4. Copper(II) Bis(Diethyldithiocarbamate) Induces the Expression of Syndecan-4, a Transmembrane Heparan Sulfate Proteoglycan, via P38 MAPK Activation in Vascular Endothelial Cells
Takato Hara, Hiroko Tatsuishi, Tomomi Banno, Tomoya Fujie, Chika Yamamoto, Hiroshi Naka, *Toshiyuki Kaji
Int. J. Mol. Sci. **19**, 3302 (2018).
5. N-Alkylation of Functionalized Amines with Alcohols Using a Copper-Gold Mixed Photocatalytic System
Lyu-Ming Wang, Yuna Morioka, Kellie Jenkinson, *Andrew E. H. Wheatley, *Susumu Saito, *Hiroshi Naka
Sci. Rep. **8**, 6931 (2018).
6. Photocatalytic Hydrogenolysis of Allylic Alcohols for Rapid Access to Platform Chemicals and Fine Chemicals
Yuki Takada, Joaquim Caner, Hiroshi Naka, *Susumu Saito
Pure Appl. Chem. **90**, 167–174 (2018). (invited conference paper)
7. A Fluorinated Cobalt(III) Porphyrin Complex for Hydroalkoxylation of Alkynes
Richiro Ushimaru, Takuho Nishimura, Toshiki Iwatsuki, *Hiroshi Naka
Chem. Pharm. Bull. **65**, 1000–1003 (2017).
8. Photocatalytic Transfer Hydrogenolysis of Allylic Alcohols on Pd/TiO₂: A Shortcut to (S)-(+)-Lavandulol
Yuki Takada, Joaquim Caner, Selvam Kaliyamoorthy, Hiroshi Naka, *Susumu Saito
Chem. - Eur. J. **23**, 18025–18032 (2017).

9. Copper Diethyldithiocarbamate as an Inhibitor of Tissue Plasminogen Activator Synthesis in Cultured Human Coronary Endothelial Cells
Tomoya Fujie, Shiori Okino, Eiko Yoshida, Chika Yamamoto, *Hiroshi Naka, *Toshiyuki Kaji
J. Toxicol. Sci. **42**, 553–558 (2017).
10. A Versatile Synthesis of Triarylantimony Difluorides by Fluorination of Triarylstibanes with Nitrosyl Tetrafluoroborate and Their Antitumor Activity
Yuki Kitamura, Mio Matsumura, Yuki Murata, Mizuki Yamada, Naoki Kakusawa, Motohiro Tanaka, Hiroyuki Okabe, *Hiroshi Naka, *Tohru Obata, *Shuji Yasuike
J. Fluorine Chem. **199**, 1–6 (2017).
11. Dehydrogenation of Primary Aliphatic Alcohols by Au/TiO₂ Photocatalysts
Masaki Shibata, Ryoko Nagata, Susumu Saito, *Hiroshi Naka
Chem. Lett. **46**, 580–582 (2017).
12. Selective Hydrogenation of Arenes to Cyclohexanes in Water Catalyzed by Chitin-Supported Ruthenium Nanoparticles
Yuna Morioka, Aki Matsuoka, Kellie Binder, Benjamin R. Knappett, *Andrew E. H. Wheatley, *Hiroshi Naka
Catal. Sci. Technol. **6**, 5801–5805 (2016).
13. Copper Diethyldithiocarbamate as an Activator of Nrf2 in Cultured Vascular Endothelial Cells
Tomoya Fujie, Masaki Murakami, Eiko Yoshida, Tadashi Tachinami, Yasuhiro Shinkai, Yasuyuki Fujiwara, Chika Yamamoto, Yoshito Kumagai, *Hiroshi Naka, *Toshiyuki Kaji
J. Biol. Inorg. Chem. **21**, 263–273 (2016).
14. Induction of Metallothionein Isoforms by Copper Diethyldithiocarbamate in Cultured Vascular Endothelial Cells
Tomoya Fujie, Yukino Segawa, Tomoki Kimura, Yasuyuki Fujiwara, Chika Yamamoto, Masahiko Satoh, *Hiroshi Naka, *Toshiyuki Kaji
J. Toxicol. Sci. **41**, 225–232 (2016).
15. Zinc Diethyldithiocarbamate as an Inducer of Metallothionein in Cultured Vascular Endothelial Cells
Tomoya Fujie, Yukino Segawa, Akane Uehara, Takehiro Nakamura, Tomoki Kimura, Eiko Yoshida, Chika Yamamoto, Masanobu Uchiyama, *Hiroshi Naka, *Toshiyuki Kaji
J. Toxicol. Sci. **41**, 217–224 (2016).
16. N-Methylation of Amines with Methanol at Room Temperature
Vasily N. Tsarev, Yuna Morioka, Joaquim Caner, Qing Wang, Richiro Ushimaru, Akihiko Kudo, Hiroshi Naka, *Susumu Saito
Org. Lett. **17**, 2530–2533 (2015).
17. Hydration of Nitriles to Amides by a Chitin-supported Ruthenium Catalyst
Aki Matsuoka, Takahiro Isogawa, Yuna Morioka, Benjamin R. Knappett, *Andrew E. H. Wheatley,

*Susumu Saito, *Hiroshi Naka

RSC Adv. **5**, 12152–12160 (2015).

18. Why *p*-Cymene? Conformational Effect in Asymmetric Hydrogenation of Aromatic Ketones with a η^6 -Arene/Ruthenium(II) Catalyst
Aki Matsuoka, Christian A. Sandoval, Masanobu Uchiyama, Ryoji Noyori, *Hiroshi Naka
Chem. Asian J. **10**, 112–115 (2015).
19. Synthesis of Propylene from Renewable Allyl Alcohol by Photocatalytic Transfer Hydrogenolysis
Joaquim Caner, Zijun Liu, Yuki Takada, Akihiko Kudo, Hiroshi Naka, *Susumu Saito
Catal. Sci. Technol. **4**, 4093–4098 (2014).
20. Activation of Cellular Defense Mechanism by Organic-Inorganic Hybrid Molecules
Tomoya Fujie, Hiroshi Naka, Chika Yamamoto, Yasuhiro Shinkai, Yoshito Kumagai, *Toshiyuki Kaji
Yakugaku Zasshi **134**, 813–815 (2014).
21. Redox-Selective Generation of Aldehydes and H₂ from Alcohols under Visible Light
Zijun Liu, Joaquim Caner, Akihiko Kudo, Hiroshi Naka, *Susumu Saito
Chem. - Eur. J. **19**, 9452–9456 (2013). (*Highlighted in Synfacts* **9**, 1138 (2013).)
22. Hydration of Terminal Alkynes Catalyzed by Water-Soluble Cobalt Porphyrin Complexes
Tadashi Tachinami, Takuho Nishimura, Richiro Ushimaru, Ryoji Noyori, *Hiroshi Naka
J. Am. Chem. Soc. **135**, 50–53 (2013).
23. Acetals of *N,N*-Dimethylformamides: Ambiphilic Behavior in Converting Carbon Dioxide to Dialkyl Carbonates
Yuki Takada, Aki Matsuoka, Ya Du, Hiroshi Naka, *Susumu Saito
Chem. Lett. **42**, 146–147 (2013).
24. Bis(L-cysteinato)zincate(II) as a Coordination Compound that Specifically Induces Metallothionein Gene Transcription Without Inducing Cell-stress-related Gene Transcript
*Tomoki Kimura, Kengo Yoshida, Chika Yamamoto, Minako Suzuki, Tomoko Uno, Masakazu Isobe, Hiroshi Naka, Shuji Yasuike, Masahiko Satoh, Toshiyuki Kaji, *Masanobu Uchiyama
J. Inorg. Biochem. **117**, 140–146 (2012).
25. One-Pot Nitrile Aldolization/Hydration Operation Giving β -Hydroxy Carboxamides
Akihiro Goto, Hiroshi Naka, Ryoji Noyori, *Susumu Saito
Chem. Asian J. **6**, 1740–1743 (2011).
26. Generation of Arylzinc Reagents Through an Iodine–zinc Exchange Reaction Promoted by a Non-metallic Organic Superbase
*Hiroshi Naka, Keisuke Ito, Masahiro Ueno, Koji Kobayashi, *Yoshinori Kondo
New J. Chem. **34**, 1700–1706 (2010).

27. Chiral η^6 -Arene/*N*-Tosylethylenediamine–Ruthenium(II) Complexes: Solution Behavior and Catalytic Activity for Asymmetric Hydrogenation
*Christian A. Sandoval, Fusheng Bie, Aki Matsuoka, Yoshiki Yamaguchi, Hiroshi Naka, Yuehui Li, Koichi Kato, Noriyuki Utsumi, Kunihiko Tsutsumi, Takeshi Ohkuma, Kunihiko Murata, *Ryoji Noyori
Chem. Asian J. **5**, 806–816 (2010).
28. S_N2' Reaction of Organozinc Reagents Activated by Catalytic *t*Bu-P4 Base in the Presence of LiCl
Koji Kobayashi, Masahiro Ueno, Hiroshi Naka, *Yoshinori Kondo
Chem. - Eur. J. **15**, 9805–9809 (2009).
29. A Mixed Alkyl-amido Aluminate as a Kinetically Controlled Base
*Hiroshi Naka, James V. Morey, Joanna Haywood, Dana Eisler, Mary McPartlin, Felipe García, Hironaga Kudo, Yoshinori Kondo, *Masanobu Uchiyama, *Andrew E. H. Wheatley
J. Am. Chem. Soc. **130**, 16193–16200 (2008).
30. Catalytic Deprotonative Functionalization of Propargyl Silyl Ethers with Imines
*Hiroshi Naka, Daiki Koseki, *Yoshinori Kondo
Adv. Synth. Catal. **350**, 1901–1906 (2008).
31. Chiral Bisphosphazides as Dual Basic Enantioselective Catalysts
*Hiroshi Naka, Nobuhiko Kanase, Masahiro Ueno, *Yoshinori Kondo
Chem. - Eur. J. **14**, 5267–5274 (2008).
32. Organozinc Reagents in DMSO Solvent: Remarkable Promotion of S_N2' Reaction for Allene Synthesis
Koji Kobayashi, Hiroshi Naka, Andrew E. H. Wheatley, *Yoshinori Kondo
Org. Lett. **10**, 3375–3377 (2008).
33. Activation of Organozinc Reagents with *t*-Bu-P4 Base for Transition Metal-free Catalytic S_N2' Reaction
Koji Kobayashi, Hiroshi Naka, Andrew E. H. Wheatley, *Yoshinori Kondo
Chem. Commun. 3780–3782 (2008).
34. Suppressing the Anionic Fries Rearrangement of Aryl Dialkylcarbamates; the Isolation of a Crystalline ortho-Deprotonated Carbamate
Felipe García, Mary McPartlin, James V. Morey, Daisuke Nobuto, Yoshinori Kondo, Hiroshi Naka, *Masanobu Uchiyama, *Andrew E. H. Wheatley
Eur. J. Org. Chem. 644–647 (2008).
35. Solid-phase Synthesis of Phthalocyanine and Tetraazaporphyrin Triangular Prisms
Atsuya Muranaka, Kengo Yoshida, Yusuke Akagi, Hiroshi Naka, Masanobu Uchiyama Yoshinori Kondo, *Nagao Kobayashi
Tetrahedron Lett. **49**, 5084–5086 (2008).
36. On the Kinetic and Thermodynamic Reactivity of Lithium Di(alkyl)amidozincate Bases in Directed *Ortho* Metalation

- Yoshinori Kondo, James V. Morey, Jacqueline C. Morgan, Hiroshi Naka, Daisuke Nobuto, Paul R. Raithby, *Masanobu Uchiyama, *Andrew E. H. Wheatley
J. Am. Chem. Soc. **129**, 12734–12738 (2007).
37. Theoretical Studies on Ortho Oxidation of Phenols with Dioxygen Mediated by Dicopper Complex: Hints for a Catalyst with the Phenolase Activity of Tyrosinase
*Hiroshi Naka, Yoshinori Kondo, Shinya Usui, Yuichi Hashimoto, *Masanobu Uchiyama
Adv. Synth. Catal. **349**, 595–600 (2007).
38. An Aluminum Ate Base: Its Design, Structure, Function and Reaction Mechanism
*Hiroshi Naka, *Masanobu Uchiyama, Yotaro Matsumoto, *Andrew E. H. Wheatley, Mary McPartlin, James V. Morey, Yoshinori Kondo
J. Am. Chem. Soc. **129**, 1921–1930 (2007).
39. Fluorous Synthesis of Yuehchukene by alpha-Lithiation of Perfluoroalkyl-Tagged 1-(Arylsulfonyl)indole with Mesityllithium
Hiroshi Naka, Yusuke Akagi, Kyoko Yamada, Tatsushi Imahori, Takahiro Kasahara, *Yoshinori Kondo
Eur. J. Org. Chem. 4635–4637 (2007).
40. Nucleophilic Aromatic Substitution using Et₃SiH/cat. t-Bu-P₄ as a System for Nucleophile Activation
Masahiro Ueno, Misato Yonemoto, Masahiro Hashimoto, Andrew E. H. Wheatley, Hiroshi Naka, *Yoshinori Kondo
Chem. Commun. 2264–2266 (2007).
41. Reverse Photochromic Behavior of Iron-Magnesium Complex
*Minoru Kobayashi, Akito Takashima, Tomohiko Ishii, Hiroshi Naka, Masanobu Uchiyama, *Kentaro Yamaguchi
Inorg. Chem. **46**, 1039–1041 (2007).
42. Encapsulation of Hydride by Molecular Main Group Metal Clusters: Manipulating the Source and Coordination Sphere of the Interstitial Ion
Sally R. Boss, Martyn P. Coles, Vicki Eyre-Brook, Felipe García, Robert Haigh, Peter B. Hitchcock, Mary McPartlin, James V. Morey, Hiroshi Naka, Paul R. Raithby, Hazel A. Sparkes, Christopher W. Tate, *Andrew E. H. Wheatley
Dalton Trans. 5574–5582 (2006).
43. Regio- and Chemoselective Direct Generation of Functionalized Aromatic Aluminum Compounds Using Aluminum Ate Base
*Masanobu Uchiyama, Hiroshi Naka, Yotaro Matsumoto, Tomohiko Ohwada
J. Am. Chem. Soc. **126**, 10526–10527 (2004).

Books

1. Converting Carbon Dioxide to Chemical Resources by Using Ambiphilic Nature of Alcohols
Hiroshi Naka, Susumu Saito
In Latest Trends in Direct Utilization of Carbon Dioxide, NTS, pp 103–113 (2013).
2. Aluminum Halides
Hiroshi Naka, Susumu Saito
In Science of Synthesis Knowledge Updates, K. Ishihara Ed.; Thieme: Stuttgart, Vol.2010/4, Section 7.1.3.18, pp 79–92 (2011).
3. Aluminum Hydrides
Hiroshi Naka, Susumu Saito
In Science of Synthesis Knowledge Updates, K. Ishihara Ed.; Thieme: Stuttgart, Vol. 2010/4, Section 7.1.2.44, pp 69–77 (2011).

Tutorials

1. Beating Organic Reaction
Hiroshi Naka
Kagaku, **72** (5), 62–63 (2017).
2. Molecular Catalysis and the GRRM Methods
Hiroshi Naka
IQCE-NEWS, 23, 1 (2015).
3. New Trends in Molecular Catalysis
Hiroshi Naka
RCMS News, **15**, in press (2015).
4. Connecting Benzene Ring and Fluorine with Catalysis
Hiroshi Naka
Kagaku, **65**(3), 62–63 (2010).
5. Global COE-RCMS International Conference on Organic Chemistry and the 6th Hirata Yoshimasa Memorial Lecture
Hiroshi Naka
RCMS News, **11**, 10 (2010).
6. Towards Robust Molecular Catalysis
Hiroshi Naka
RCMS News, **10**, 20–21 (2009).

International Invited Lectures

1. "Photocatalytic Conversion of Alcohols for Selective Chemical Synthesis" ACP Lectureship Award Seminar, Aug 10, 2017, Nanyang Technological University, Singapore.
2. "Photocatalytic Conversion of Alcohols for Selective Chemical Synthesis" ACP Lectureship Award Seminar, Aug 8, 2017, National University of Singapore, Singapore.
3. "Catalytic Transformation of Alcohols for Selective Organic Synthesis" Intergroup Seminar at the Laboratory of Organic Chemistry, April 28, 2015, ETH Zurich, Switzerland.
4. "A Step Towards Robust Hydration of Organic Compounds Through Molecular Catalysis" 11th IRTG Joint Symposium, May 9–10, 2011, University of Muenster, Muenster, Germany.
5. "Lithium Aluminate Bases for Selective Organic Synthesis" Pacificchem2010 (Early Main Group Chemistry section #100-1A), Dec 15–20, 2010, Honolulu, Hawaii, USA.
6. "Cobalt-Catalyzed Hydration of Alkynes: Toward Robust Transformation of Small Molecules Through Molecular Catalysis" The 4th International G-COE Chem6 Symposium for Emergence of New Molecular Chemistry, Mar 2, 2010, Tokyo Institute of Technology, Tokyo.
7. "Creating Functionalized Aromatic Compounds Using Ate Complexes" International Research Training Group "Complex Functional Systems in Chemistry" Muenster (GER) - Nagoya (JPN) Lectureship, Jan 21, 2010, University of Muenster, Muenster, Germany.

Domestic Invited Lectures

1. "Chemical Synthesis through Photocatalytic Transformation of Alcohols", Special Lecture of Pharmaceutical Society of Japan, Tokai Region, Jul 11, 2014, Aichi Gakuin University, Nagoya.
2. "Towards Robust Transformation of Water: Cobalt-catalyzed Hydration of Terminal Alkynes", Hokuriku University Academic Frontier Annual Meeting FY2009, Mar 16–17, 2010, Hokuriku University, Kanazawa.
3. "Robust Chemical Transformations based on Molecular Catalysis", Hokuriku University Academic Frontier Special Lecture, Jan 29, 2010, Hokuriku University, Kanazawa.
4. "Molecular Catalysis for Medicinal Chemistry", Special Lecture of Pharmaceutical Society of Japan, Tokai Region, Dec 7, 2009, Aichi Gakuin University, Nagoya.
5. "QM Computation-assisted Research on Design, Analysis, and Reactions of Metal Ate Complexes", Tohoku University GCOE Lecture, Mar 7, 2008, Tohoku University, Sendai.

Patents

1. TO BE ADDED
Hiroshi Naka, Shinsuke Iwata, Ryoji Noyori / Nagoya University
JP 2014-45342, 07.03.2014.
2. TO BE ADDED
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Vasily N. Tsarev, Joachim Kanaa Kazademont, Akihiko Kudo / Nagoya University
JP 2013-213167, 10.10.2013.
3. TO BE ADDED
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Joachim Kanaa Kazademont, Zijun Liu, Akihiko Kudo / Nagoya University
JP 2013-193470, 18.09.2013.
4. METHOD OF PRODUCING CYCLIC URETHANE
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Foo Siong Wan / Nagoya University
JP 2013-65083, 26.03.2013; JP2014-189509A, 06.10.2014.
5. METHOD OF MANUFACTURING CARBONYL COMPOUND
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Zijun Liu, Joachim Kanaa Kazademont, Akihiko Kudo / Nagoya University
JP 2012-181888, 20.08.2012; JP 2014-037396A, 27.02.2014.
6. FAT CELL DIFFERENTIATION INHIBITOR
Akira Onodera, Masahiko Sato, Naonobu Uchiyama, Tokuo Ito, Hiroshi Naka, Shuji Yasuie / Kobe Gakuin, Aichi Gakuin
JP2012-107557, 09.05.2012; 2013-234150A, 21.11.2013.
7. METHOD FOR PRODUCING ANNULAR URETHANE
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Yusuke, Yamazaki, Yuki Takada / Nagoya University
JP 2012-70113, 26.03.2012; 2013-199456A, 03.10.2013.
8. METHOD FOR PRODUCING CYCLIC URETHANE
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Yusuke, Yamazaki, Foo Siong Wan / Nagoya University
JP 2012-28845, 13.02.2012; JP2013-163668A, 22.08.2013.
9. METHOD OF PRODUCING HIGHER AMINE
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Ya Du / Nagoya University
JP 2010-208526, 16.09.2010; JP2012-062281A, 29.03.2012.
10. METHOD OF PRODUCING CARBONIC ESTER
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Yusuke, Yamazaki, Ya Du / Nagoya University
JP 2010-203712, 10.09.2010; JP2012-056910A, 22.03.2012.

11. METHOD FOR PRODUCING PYRROLE
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Osamu Kose, Junki Ando / Nagoya University
JP 2010-49823, 05.03.2010; 2011-184338A, 22.09.2211
12. METHOD FOR PRODUCING DIMER
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Osamu Kose, Junki Ando / Nagoya University
JP 2010-49735, 05.03.2010; JP2011-184336A, 22.09.2011.
13. METHOD FOR PRODUCING MONOAMINE
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Zhao Yingsheng / Nagoya University
JP 2010-1557, 06.01.2010; JP 2011-140456A, 21.07.2011.
14. METHOD FOR PRODUCING ALCOHOL AND CATALYST FOR DIMERIZATION REACTION OF ALCOHOL
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Osamu Kose, Takashi Miura / Nagoya University
JP 2009-299231, 23.12.2009; JP 2011-136970A, 14.07.2011.
15. PROCESS FOR PRODUCING CARBONATE ESTER
Ryoji Noyori, Susumu Saito, Hiroshi Naka, Kasumi Kakuma, Yusuke, Yamazaki, Ya Du / Nagoya University
JP 2009-233817, 25.12.2009; JP 2011-098949A, 19.05.2011.
16. FUNCTIONAL PHOSPHAZIDE HAVING HIGH HEAT STABILITY
Yoshinori Kondo, Hiroshi Naka, Tetsuya Shimo / Tohoku University
JP 2008-193767, 28.07.2008; JP 2010-30941A, 12.02.2010.