

Representative publications for each research period (present-1982)

(Original papers, review articles, book chapters and reports are numbered. Univ. bulletins are not counted)

Summary: 111 publications (original papers: 101, review articles, book chapters and reports: 10)

(Last updated: 4/2024)

-Professor Emeritus at Niigata University (present–2023)-

- 83) “Fluorescence Enhancement of Benzimidazolium Derivative on Clay Nanosheets by Surface-Fixation Induced Emission (S-FIE)”, H. Mori, R. Nakazato, H. Tachibana, T. Shimada, T. Ishida, R. Miyajima, E. Hasegawa, S. Takagi, *Photochem. Photobiol. Sci.* **2024**, *23*, ???–???
- 82) “Desulfonylative Radical Truce-Smiles Rearrangement Utilizing the Benzimidazoline and Benzimidazolium Redox Couple”, R. Miyajima, M. Okamura, K. Oomori, H. Iwamoto, K. Wakamatsu, E. Hasegawa, *Synlett* **2024**, *35*, 352–356.
- 81) “Electron and Hydrogen Atom Donor Photocatalysts in Situ Generated from Benzimidazolium Salts and Hydride Reagents”, R. Miyajima, T. Kiuchi, Y. Ooe, H. Iwamoto, Shin. Takizawa, E. Hasegawa, *J. Photochem. Photobiol.* **2023**, *16*, 100195 (1–9).
- 80) “Triarylamine-Substituted Benzimidazoliums as Electron Donor-Acceptor Dyad Type Photocatalysts for Reductive Organic Transformations”, R. Miyajima, Y. Ooe, T. Miura, T. Ikoma, H. Iwamoto, S. Takizawa, E. Hasegawa, *J. Am. Chem. Soc.* **2023**, *145*, 10236–10248.

-Professor at Niigata University (2022-2006)-

And other 15 papers.

- 79) “還元的有機分子変換のための有機光レドックス触媒 Organic Photoredox Catalysts for Reductive Transformations of Organic Molecules “, 長谷川英悦, *光化学* **2022**, *53*, 66-73.
- 78) “A Photocatalytic System Composed of Benzimidazolium Aryloxy and Tetramethylpiperidine 1-Oxyl to Promote Desulfonylative α -Oxyamination Reactions of α -Sulfonylketones”, T. Tanaka, T. Kiuchi, Y. Ooe, H. Iwamoto, S. Takizawa, S. Murata, E. Hasegawa, *ACS Omega* **2022**, *7*, 4655–4666.
- 77) “Competitive Desulfonylative Reduction and Oxidation of α -Sulfonylketones Promoted by Photoinduced Electron Transfer with 2-Hydroxyaryl-1,3-dimethylbenzimidazolines under Air”, E. Hasegawa, S. Nakamura, K. Oomori, T. Tanaka, H. Iwamoto, K. Wakamatsu, *J. Org. Chem.* **2021**, *86*, 2556–2569.
- 76) “Sterically Regulated α -Oxygenation of α -Bromocarbonyl Compounds Promoted Using 2-Aryl-1,3-dimethylbenzimidazolines and Air”, E. Hasegawa, N. Yoshioka, T. Tanaka, T. Nakaminato, K. Oomori, T. Ikoma, H. Iwamoto, K. Wakamatsu, *ACS Omega* **2020**, *5*, 7651–7665.
- 75) “Protocol for Visible-Light-Promoted Desulfonylation Reactions Utilizing Catalytic Benzimidazolium Aryloxy Betaines and Stoichiometric Hydride Donor Reagents”, E. Hasegawa, T. Tanaka, N. Izumiya, T. Kiuchi, Y. Ooe, H. Iwamoto, S. Takizawa, S. Murata, *J. Org. Chem.* **2020**, *85*, 4344–4353.
- 74) “Visible light and hydroxynaphthylbenzimidazoline promoted transition-metal-catalyst-free desulfonylation of *N*-sulfonylamides and *N*-sulfonylaminines”,

- E. Hasegawa, Y. Nagakura, N. Izumiya, K. Matsumoto, T. Tanaka, T. Miura, T. Ikoma, H. Iwamoto, K. Wakamatsu *J. Org. Chem.* **2018**, *83*, 10813 – 10825.
- 73) “Benzimidazolium naphthoxide betaine is a visible light promoted organic photoredox catalyst”,
E. Hasegawa, N. Izumiya, T. Miura, T. Ikoma, H. Iwamoto, S. Takizawa, S. Murata,
J. Org. Chem. **2018**, *83*, 3921 – 3927.
- 72) “Visible light-promoted reductive transformations of various organic substances by using hydroxyaryl substituted benzimidazolines and bases”,
E. Hasegawa, N. Izumiya, T. Fukuda, K. Nemoto, H. Iwamoto, S. Takizawa, S. Murata,
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- 71) “Solvent dependent reaction pathways operating in copper(II) tetrafluoroborate promoted oxidative ring-opening reactions of cyclopropyl silyl ethers”,
E. Hasegawa, K. Nemoto, R. Nagumo, E. Tayama, H. Iwamoto,
J. Org. Chem. **2016**, *81*, 2692-2703. (*selected as a Featured Article with the Cover Picture of Issue 7*)
- 70) “Visible light-promoted metal-free reduction reaction of organohalides by 2-naphthyl or 2-hydroxynaphthyl substituted 1,3-dimethylbenzimidazolines”,
E. Hasegawa, K. Mori, S. Tsuji, K. Nemoto, T. Ohta, H. Iwamoto,
Aust. J. Chem. (*A special issue in celebration of the International Year of Light and Light-based Technologies in 2015*), **2015**, *68*, 1648–1652.
- 69) “2-Aryl-1,3-dimethylbenzimidazolines as effective electron and hydrogen donors in photoinduced electron-transfer reactions”,
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Aust. J. Chem. (*A special issue in celebration of the International Year of Light and Light-based Technologies in 2015*), **2015**, *68*, 1640–1647.
- 68) “Aryl-substituted dimethylbenzimidazolines as effective reductants of photoinduced electron transfer reactions”,
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- 67) “Metal-Free, One-Pot, Sequential Protocol for Transforming alpha, beta-Epoxy Ketones to beta-Hydroxy Ketones and alpha-Methylene Ketones”,
E. Hasegawa, S. Arai, E. Tayama, H. Iwamoto,
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- 66) 長谷川英悦, “光化学の事典 —だれでもわかる光化学の初歩—, 第3章 光化学の基礎 II —有機化学—, 3.2節 様々な光化学反応 (15) 「光ニトロソ化」”, 光化学協会編, 朝倉書店, (2014).
- 65) “有機光レドックス触媒は有機合成に有用か? —光誘起電子移動反応の有機合成への応用”, 太田拓, 辻井詩織, 長谷川英悦,
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- 64) “A photo-reagent system of benzimidazoline and Ru(bpy)₃Cl₂ to promote hexenyl radical cyclization and Dowd-Beckwith ring-expansion of alpha-halomethyl substituted benzocyclic-1-alkanones”,
E. Hasegawa, M. Tateyama, T. Hoshi, T. Ohta, E. Tayama, H. Iwamoto, S. Takizawa, S. Murata,
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- 63) “Carbon-carbon bond formation via benzoyl umpolung attained by photoinduced electron-transfer with benzimidazolines”
T. Igarashi, E. Tayama, H. Iwamoto, E. Hasegawa,
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- 62) “Copper (II) salt promoted oxidative ring-opening reactions of bicyclic cyclopropanol derivatives via radical pathways”,
E. Hasegawa, M. Tateyama, R. Nagumo, E. Tayama, H. Iwamoto,
Beilstein J. Org. Chem. (Thematic Series. Organic Free Radical Chemistry) **2013**, *9*, 1397-1406.
- 61) “Photoinduced Electron Transfer Reaction of α -Bromomethyl Substituted Benzocyclic α -Keto Esters with Amines: Selective Reaction Pathways Depending on Nature of Amine Radical Cations”,
E. Hasegawa, E. Tosaka, A. Yoneoka, Y. Tamura, S. Takizawa, M. Tomura, Y. Yamashita,
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- 60) “An effective procedure to promote aza-Prins cyclization reactions employing a combination of ferric chloride and an imidazolium salt in benzotrifluoride”
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- 59) “Application of biphasic reaction procedure using ferric chloride dissolved in an imidazolium salt and benzotrifluoride (FeIm-BTF procedure) to aza-Prins cyclization reaction”,
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- 58) “Novel biphasic reaction system of ferric chloride dissolved imidazolium hexafluorophosphate and benzotrifluoride: application to electron transfer reaction of cyclopropyl silyl ethers”,
H. Tsuchida, E. Hasegawa,
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- 57) “光誘起電子移動 (PET) 反応の有機合成への応用 –光増感法を用いる最近の実例より–
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E. Hasegawa, H. Hirose, K. Sasaki, S. Takizawa, T. Seida, N. Chiba
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- 53) “Tris(trimethylsilyl)silane promoted radical reaction and electron-transfer reaction in benzotrifluoride”
E. Hasegawa, Y. Ogawa, K. Kakinuma, H. Tsuchida, E. Tosaka, S. Takizawa, H. Muraoka,
T. Saikawa
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E. Hasegawa, N. Yamaguchi, H. Muraoka, H. Tsuchida
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50) “The first example of samarium diiodide-promoted intramolecular ketone-ester coupling of ketones tethering acyloxyalkyl side chains producing 2-hydroxy cyclic hemiacetals”
E. Hasegawa, K. Okamoto, N. Tanikawa, M. Nakamura, K. Iwaya, T. Hoshi, T. Suzuki
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-Associate Professor at Niigata University (2006-1992)-

And other 6 papers.

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47) “Contrastive Photoreduction Pathways of Benzophenones Governed by Regiospecific Deprotonation of Imidazoline Radical Cations and Additive Effects”
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46) “2-Hydroxyphenyl-1,3-dimethylbenzimidazolines. Formal Two Hydrogen Atom-Donors for Photoinduced Electron Transfer Reactions”,
E. Hasegawa, N. Chiba, T. Takahashi, S. Takizawa, T. Kitayama, T. Suzuki,
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45) E. Hasegawa, M. Kamata, “Photoinduced Electron Transfer Reactions of Oxiranes and Epoxy Ketones”, in *CRC Handbook of Organic Photochemistry and Photobiology*, Horspool, W. M. and Lenci, F., Eds., CRC Press, Boca Raton, **2004**, Chapter 53, 1-17.

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- 41) “Changeable Reactivity of Ketyl Radicals Derived from 2-Bromomethyl-2-(3-butenyl)benzocyclic-1-alkanones Depending on Electron Transfer Conditions Employed”,
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- 39) “1,3-Dimethyl-2-phenyl-benzimidazoline (DMPBI)-Acetic acid: An Effective Reagent System for Photoinduced Reductive Transformation of α , β -Epoxy Ketones to β -Hydroxy Ketones”,
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Synthesis (Special Issue on Synthetic Organic Photochemistry) **2001**, 1248-1252.
- 38) “Reaction of Ethyl 2-Haloethyl-1-tetralone-2-carboxylate and Samarium Diodide: First Example of Intramolecular *O*-Alkylation of Samarium Ketyl Radical by Carbon-halogen Bond”,
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- 37) “Photoreactions of 4-Tribromomethyl-4-methyl-2,5-cyclohexadienone and its Derivatives with Amines: Radical Cyclization and Ring Expansion Reactions Promoted Through Photoinduced Electron Transfer Processes”,
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- 34) “Photoreactions of Halomethyl Substituted Benzocyclic Ketones with Amines: Radical Cyclization and Ring Expansion Reactions Promoted through Photoinduced Electron Transfer Processes”,
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-Visiting Associate Professor at University of Pittsburgh (1993-1992)-

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-Assistant Professor at Niigata-University (1992-1987)-

And other 7 papers.

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- 16) "Exploratory Study on Photoinduced Single Electron Transfer Reactions of α,β -Epoxy Ketones with Amines",
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- 15) "Selective $C\beta$ -O Bond Cleavage of Chalcone Epoxides Induced by Pyrylium Salt Sensitized Photoreactions and Dark Reactions with Cerium (IV) Salts",
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-Postdoctoral Fellow at University of Maryland (1987-1986)-

- 13) "Novel Electron Transfer Photocyclization Reactions of α -Silylamine- α,β -Unsaturated Ketone and Ester Systems",
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-Graduate Student at Tohoku University (1986-1981)-

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-Undergraduate Student at Yamagata University (1981-1980)-

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