Wonwoo Nam
Ewha Distinguished Professor

Department of Chemistry and Nano Science
Center for Biomimetic Systems
Ewha Womans University
Seoul, Korea

Tel: +82-2-3277-2392 Fax: +82-2-3277-4114 E-mail: wwnam@ewha.ac.kr

Education

California State University, Los Angeles	B.S.	1985	Chemistry
University of California, Los Angeles	Ph.D.	1990	Chemistry

Professional Career

Postdoctoral Fellow	UCLA	1990 – 1991
Assistant Professor	Hong Ik University	1991 – 1994
Assistant Professor	Ewha Womans University	1994 – 1996
Associate Professor	Ewha Womans University	1996 – 2000
Professor	Ewha Womans University	2000 – Present
Distinguished Professor	Ewha Womans University	2005 – Present
Director	Center for Dioxygen Chemistry	2003 – Present

Awards & Honors

- The 4th Young Scientist Award (A highly honored award given in chemistry field every other year by the President of Korea), 2000
- Korean Chemical Society Award in Division of Inorganic Chemistry, 2003
- Best Research Paper by Korean Federation of Science and Technology Societies, 2004
- The 1st Ewha Academic Award, 2005
- Monthly Best Scientist Award by Ministry of Science and Technology of Korea, 2005
- Korean Chemical Society Award, 2006
- The 5th DuPont Science and Technology Award, 2006
- The 3rd Kyeong-Am Academic Award, 2007
- Named as a Role Model Scientist, Korea Science Foundation, 2008
- Taikyu Rhee Academic Award, 2012
- Outstanding Achievement Award, Society of Asian Biological Inorganic Chemistry, 2014
- Commendation for Excellent Research in Basic Science, Ministry of Science, ICT and Future Planning, 2015
- Korea Science Award (A highly honored award given by the President of Korea), 2015
- Korea Toray Science and Technology Prize, 2020
- International Award of Japan Society of Coordination Chemistry, 2021
- MicrotracBEL-ACCC Award, Society of Asian Coordination Chemistry, 2022
- National Academy of Science Award, Republic of Korea, 2022
- Research Award of the Alexander von Humboldt Foundation, Germany, 2023
- Einstein Visiting Fellowship, Germany, 2024

- Junior Fellow, Korean Academy of Science and Technology (KAST), 2002 – 2007

• Fellow, Korean Academy of Science and Technology (KAST), 2007 – Present
• Head of International Academic Affairs, Korean Academy of Science and Technology (KAST), 2022 – 2024
• Member, Policy Advice Development and Programme Committee, InterAcademy Partnership (IAP), 2022 – 2025
• Fellow of the Royal Society of Chemistry (RSC), 2014
• University of Hong Kong, Honorary Professor, 2007 – Present
• Osaka University, Distinguished Scientist in COE Program, 2007 – 2010
• Nanjing University, Concurrent Professor, 2012 – Present
• Nagoya Institute of Technology, Professor for the Brain Circulation Project, 2015 – 2017
• Tohoku University, Visiting Professor, 2015
• Lanzhou Institute of Chemical Physics, Chinese Academy of Science, Honorary Professor, 2015 – 2020
• Sun Yat-sen University, Part-time Professor, 2015 – 2018
• "1000 Foreign Experts Program" Provided by Chinese Government, 2016 – 2019
• "Qujiang Scholar", Shaanxi Normal University, 2017 – 2023
• University of Jinan, Honorary Professor, 2017 – Present
• Peking University, Guest Professor, 2018 – present
• "Pao Yuekong Chair Professor", Ningbo University, 2019 – 2021
• "Shandong Provincial Distinguished Foreign Expert", 2020 – 2023
• Shandong University, Visiting Professor, 2021 – 2024
• Wuhan University, Chief Foreign Scientist in International Cooperative Research Platform, 2022 – 2024
• Xiaman University, "Foreign Expert of 111 Project", 2021 – 2026
• Texas A&M University, Visiting Professor in Program for Environment and Sustainability, 2023 – 2026
• Eötvös Loránd University (Budapest, Hungary), Visiting Professor at the Laboratory of Nuclear Chemistry at Institute of Chemistry, 2023 – 2026
• University Guadalajara (Mexico), Visiting Professor, 2023 – 2026
• Luoyang Normal University, Special Appointment Professor, 2023 – Present
• Yan'an University, Distinguished Professor, 2023 – 2026

Activities as Editor or Editorial Board Member

• Editor-in-Chief; *Bulletin of the Korean Chemical Society* (KCS), 2020 – Present
• Associate Editor; *Chemical Science* (RSC), 2011 – 2019
• Editorial Advisory Board; *Chemical Science* (RSC), 2019 – Present
• Editorial Advisory Board; *Chem Catalysis* (Cell), 2021 – Present
• Editorial Advisory Board; *Accounts of Chemical Research* (ACS), 2006 – 2015
• Editorial Advisory Board; *Chemical Communications* (RSC), 2012 – Present
• Editorial Advisory Board; *Inorganic Chemistry Frontiers* (RSC), 2013 – Present
• Editorial Advisory Board; *Progress in Inorganic Chemistry* (John-Wiley & Sons, Inc.), 2012 – Present
• Editorial Advisory Board; *Journal of Inorganic Biochemistry* (Elsevier), 2007 – Present
• Editorial Board; *Bioinorganic Reaction Mechanism* (De Gruyter), 2011 – Present
• Editorial Advisory Board; *Inorganic Chemistry* (ACS), 2010 – 2012
• Editorial Advisory Board; *Dalton Transactions* (RSC), 2009 – 2013
• International Advisory Board; *Chemistry – An Asian Journal* (Wiley-VCH), 2010 – 2013
• Editorial Advisory Board; *Journal of Biological Inorganic Chemistry* (Springer), 2003 –

2011
• Associate Editor; *Journal of Korean Chemical Society* (KCS), 2004 – 2006
• General Secretary (Elected), Society of Biological Inorganic Chemistry, 2011 – 2015
• Council Member, Society of Biological Inorganic Chemistry, 2007 – 2011
• Chair Elect, Society of Asian Biological Inorganic Chemistry, 2019 – 2020
• Chair, Society of Asian Biological Inorganic Chemistry, 2021 – 2024

Major Symposium Activity as an Organizer or Co-organizer (2003 – Present)
• Organizer, International Symposium on Bioinorganic Chemistry, 2023 (Jeonbuk, Korea)
• Organizer, The 51st KAST International Symposium: 2022 BKCS International Bioinorganic Chemistry Symposium, 2022 (Seoul, Korea)
• Organizer, JBNU International Online Symposium; Bioinorganic Frontiers for Catalysis and Medicine, 2021 (Jeonbuk, Korea)
• Organizer, International On-line Bioinorganic Symposium, 2020 (Seoul, Korea)
• Organizer, The 6th International Ewha Bioinorganic Chemistry Symposium, 2019 (Seoul, Korea)
• Organizer, The 5th International Ewha Bioinorganic Chemistry Symposium, 2017 (Seoul, Korea)
• Organizer, The 4th International Ewha Bioinorganic Chemistry Symposium, 2016 (Seoul, Korea)
• Organizer, ChemComm Symposium, 2015 (Seoul, Korea)
• International Advisory Panel, 41st International Conference on Coordination Chemistry (ICCC-41), 2014 (Singapore)
• International Advisory Committee, AsBIC 7, 2014 (Gold Coast, Austrialia)
• Organizer, 3rd International Bioinorganic Chemistry Symposium in Seoul, 2013 (Seoul, Korea)
• Organizer, KAST Symposium on the Impact of Chemistry on Biology, 2013 (Seoul, Korea)
• International Advisory Committee, AsBIC 6, 2012 (Hong Kong, China)
• Treasurer, 7th International Conference on Porphyrins and Phthalocyanines, 2012 (Jeju Island, Korea)
• Organizer, 2nd International Bioinorganic Chemistry Symposium on Small Molecule Activation by Heme and Nonheme Enzymes and Models (Associated with Chemical Science of RSC), 2012 (Seoul, Korea)
• Organizer, Ewha-Berkeley-Princeton Joint Symposium in Functional Biomimetic Materials, 2011 (Seoul, Korea)
• Organizer, ChemComm Symposium, 2010 (Seoul, Korea and Osaka, Japan)
• International Advisory Committee, AsBIC V, 2010 (Kaohsiung, Taiwan)
• International Advisory Committee, 2nd Asian Conference on Coordination Chemistry, 2010 (Nanjing, China)
• Session Organizer, 6th International Conference on Porphyrins and Phthalocyanines, 2010 (Texas, USA)
• International Advisory Committee, Singapore International Chemical Conference VI, 2009 (Singapore)
• Session Organizer, 14th International Conference on Biological Inorganic Chemistry, 2009 (Nagoya, Japan)
• Organizer, The 4th Asian Biological Inorganic Chemistry Conference, 2008 (Jeju Island, Korea)
• International Advisory Committee, 1st Asian Conference on Coordination Chemistry, 2008

(Okazaki, Japan)
- Organizer, 1st International Bioinorganic Chemistry Symposium, 2006 (Seoul, Korea)
- International Advisory Committee, AsBIC-III, 2006 (Nanjing, China)
- Session Organizer, Pacifichem 2005, 2005, 2010, 2015 (Hawaii, USA)
- Session Organizer, 11th Asian Chemical Congress, 2005 (Seoul, Korea)
- International Advisory Committee, AsBIC-II, 2004 (Goa, India)
- Steering Committee, Asian Bioinorganic Chemistry Society, 2003 (Okazaki, Japan)
- International Advisory Committee, Activation of Dioxygen and Homogeneous Catalytic Oxidation, 1999 – present

Research Interest

1. Biomimetic studies of heme and nonheme iron enzymes: Synthesis and spectroscopic and structural characterization of heme and nonheme iron-oxygen intermediates in dioxygen activation chemistry by biomimetic compounds. Mechanisms of oxygenation reactions of organic compounds by iron-oxygen intermediates. Mechanisms of oxygen-oxygen bond cleavage of iron-dioxygen complexes. Development of environmentally benign catalytic oxidation systems using heme and nonheme iron complexes.
2. Metal-oxygen intermediates: Synthesis, spectroscopic and structural characterization, and reactivity studies of nonheme metal-oxygen intermediates. Mechanisms of oxygen atom transfer from metal-oxygen intermediates to organic compounds. Catalytic oxidation of organic substrates by metal complexes.
3. Water oxidation & artificial Photosystem II: Elucidation of the mechanism of O-O bond formation using metal-oxygen intermediates. Mechanistic studies of metal ion effects on the reactivities of high-valent metal-oxo intermediates. Development of efficient water oxidation catalysts using inorganic and nano materials.
4. Density functional theory (DFT) calculations: Combined experimental and theoretical approaches to understand reactivities of metal-oxygen intermediates in electrophilic and nucleophilic oxidative reactions, such as activation energy barriers, geometries, and spin density distribution to support or exclude experimentally proposed mechanisms. Searching for new mechanisms and predict reactivities where experiments are not available.
5. Bioinspired catalytic asymmetric oxidation reactions: Development of efficient asymmetric oxidation reactions using synthetic biomimetic catalysts and understanding of their reaction mechanisms.

- A Short Summary of Publications -

More than 420 papers have been published, including Science (2), Nature (1), Nature Chemistry (4), Nature Reviews Chemistry (1), Nature Communications (2), Accounts of Chemical Research (6), Journal of the American Chemical Society (JACS, 100), Angewandte Chemie International Edition (30), and Chemical Science (17).

Publication List

- 2024 -

1. Wenjuan Zhu, Peng Wu, Virginia A. Larson, Akhilesh Kumar, Xiao-Xi Li, Mi Sook Seo, Yong-Min Lee, Binju Wang,* Nicolai Lehnert,* and Wonwoo Nam* "Electronic Structure and Reactivity of Mononuclear Nonheme Iron-Peroxo Complexes as a Biomimetic Model of Rieske Oxygenases: Ring Size Effects of Macrocyclic Ligands" *J. Am. Chem. Soc.* **2024**, *146*, 250-262.
2. Madhuri Nilajakar, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Nonlinear Acid Promotion in Oxidation of Substrates by Mononuclear Nonheme Iron(III)-Aqua Complexes" *ACS Catal.* **2024**, in press
3. Young Hyun Hong, Madhuri Nilajakar, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Artificial Photosynthesis for Regioselective Reduction of $NAD(P)^+$ to NAD(P)H Using Water as an Electron and Proton Source" *J. Am. Chem. Soc.* **2024**, in revision.
4. Duyi Shen,* Ting Ren, Haixing Zhang, Mianran Chao, Peiwei Gong, Chaoyue Sun, Shumiao Zhang, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Aerobic Alcohol Oxidation with a Cerium-Phenanthrolinedione Complex: A Mimic of Lanthanides-Based Methanol Dehydrogenase" *ACS Catalysis* **2024**, in press.
5. Young Hyun Hong, Yong-Min Lee, Shunichi Fukuzumi* and Wonwoo Nam* "Seeing the Key Intermediates in Bioinspired Nonheme Iron Complex-Catalyzed Water Oxidation" *CHEM* **2024**, in revision.
6. Deesha D. Malik, Wooyeol Ryu, Yujeong Kim, Gurjot Singh, Jun-Hyeong Kim, Muniyandi Sankaralingam, Yong-Min Lee, Mi Sook Seo, Mahesh Sundararajan, Daniel Ocampo, Michael Roemelt,* Kiyoung Park,* Sun Hee Kim,* Mu-Hyun Baik,* Jason Shearer,* Kallol Ray,* Shunichi Fukuzumi,* and Wonwoo Nam* "Identification, Characterization, and Electronic Structures of Interconvertible Cobalt-Oxygen TAML Intermediates" *J. Am. Chem. Soc.* **2024**, in submission.

- 2023 -

7. Wenjuan Zhu, Akhilesh Kumar, Jin Xiong, Macon J. Abernathy, Xiao-Xi Li, Mi Sook Seo, Yong-Min Lee, Ritimukta Sarangi, Yisong Guo, and Wonwoo Nam* "Seeing the

cis-Dihydroxylating Intermediate: A Mononuclear Nonheme Iron-Peroxo Complex in *cis*-Dihydroxylation Reactions Modelling Rieske Dioxygenases" *J. Am. Chem. Soc.* **2023**, *145(8)*, 4389–4393.

8. Lina Zhang, Mi Sook Seo, Yunhee Choi, Deesha D. Malik, Yong-Min Lee, Kyung-Bin Cho,* Wonwoo Nam* "A Manganese Compound I Model with a High Reactivity in the Oxidation of Organic Substrates and Water" *J. Am. Chem. Soc.* **2023**, *145(15)*, 4116–4123.

9. Jindou Yang, Guilherme L. Tripodi, Max T. G. M. Derks, Mi Sook Seo, Yong-Min Lee, Jason Shearer,* Jana Roithová,* and Wonwoo Nam* "Generation, Spectroscopic Characterization, and Reactivity of a Mononuclear Nonheme S = 3/2 Cobalt(IV)-Imido Complex" *J. Am. Chem. Soc.* **2023**, *145*, 26106-26121.

10. Jie Chen, Wenxun Song, Jinping Yao, Zhimin Wu, Yong-Min Lee, Yong Wang,* Wonwoo Nam,* and Bin Wang* "Hydrogen Bonding Assisted and Nonheme Manganese-Catalyzed Remote C–H Hydroxylation in the Presence of N-Heteroaromatics" *J. Am. Chem. Soc.* **2023**, *145(9)*, 5456–5466.

11. Jie Chen, Jinyan Zhang, Ying Sun, Yuankai Xu, Yinan Yang, Yong-Min Lee, Wenhua Ji, Binju Wang,* Wonwoo Nam,* and Bin Wang* "Mononuclear Nonheme Manganese-Catalyzed Enantioselective *cis*-Dihydroxylation of Alkenes Modeling Rieske Dioxygenases" *J. Am. Chem. Soc.* **2023**, *145*, 27626-27638.

12. Dongru Sun, Zhimin Wu, Xuan Zhang, Jindou Yang, Yufen Zhao, Wonwoo Nam,* and Yong Wang* "Brønsted Acids Promote Olefin Oxidations by Bioinspired Nonheme Co^{III}(PhIO)(OH) Complexes: A Role for Low-Barrier Hydrogen Bonds" *J. Am. Chem. Soc.* **2023**, *145(10)*, 5739–5749.

13. Young Hyun Hong, Yong-Min Lee,* Wonwoo Nam,* Shunichi Fukuzumi* "Reaction Intermediates in Artificial Photosynthesis with Molecular Catalysts" *ACS Catal.* **2023**, *13(1)*, 308–341.

14. Xialiang Li, Ping Li, Jindou Yang, Lisi Xie, Ni Wang, Haitao Lei, Chaochao Zhang, Wei Zhang, Yong-Min Lee, Weiqiang Zhang,* Shunichi Fukuzumi,* Wonwoo Nam,* Rui Cao* "A cobalt(II) Porphyrin with a Tethered Imidazole for Efficient Oxygen Reduction and Evolution Electrocatalysis" *J. Energy Chem.* **2023**, *76*, 617–621.

15. Jie Chen, Wenxun Song, Yong-Min Lee, Wonwoo Nam,* and Bin Wang* "Biologically inspired nonheme iron complex-catalyzed *cis*-dihydroxylation of alkenes modeling Rieske dioxygenases" *Coord. Chem. Rev.* **2023**, *477*, 214945.

16. Wenjuan Zhu, Namita Sharma, Yong-Min Lee,* Mohamed E. El-Khouly,* Shunichi Fukuzumi, and Wonwoo Nam* "Use of Singlet Oxygen in the Generation of a Mononuclear Nonheme Iron(IV)-Oxo Complex" *Inorg. Chem.* **2023**, *62(10)*, 4116–4123.

17. Yong-Min Lee,* Wonwoo Nam,* Shunichi Fukuzumi* "Redox Catalysis via Photoinduced Electron Transfer" *Chem. Sci.* **2023**, *14(16)*, 4205–4218.

18. Young Hyun Hong, Yong-Min Lee,* Wonwoo Nam* and Shunichi Fukuzumi* "Multi-functional photocatalytic systems for solar fuel production" *J. Mater. Chem. A* **2023**, *11(27)*, 14614–14629.

19. Anran Zhou, Xiao-Xi Li, Dongru Sun,* Xuanyu Cao, Zhimin Wu, Huanhuan Chen, Yufen Zhao, Wonwoo Nam* and Yong Wang* "Theoretical investigation on the elusive structure-activity relationship of bioinspired high-valence nickel-halogen complexes in oxidative fluorination reactions" *Dalton Trans.* **2023**, *52(7)*, 1977–1988.

20. Zhimin Wu, Dongru Sun,* Yong-Min Lee, Yufen Zhao, Wonwoo Nam,* and Yong Wang* "The elusive active species in nickel(II)-mediated oxidations of hydrocarbons by peracids: A Ni^{II}–oxyl species, an aroyloxy radical, or a Ni^{II}-peracid complex? " *Dalton Trans.* **2023**, *52(25)*, 8676–8684.

21. Rinny Kuilya,[§] Young Hyun Hong,[§] Namita Sharma,[§] Yong-Min Lee,* Shunichi Fukuzumi,* and Wonwoo Nam* "Photooxidation by a Long-Lived Photoexcited State of a Triflic Acid-Bound Mn(IV)-Oxo Complex with the Highest Quantum Efficiency" *J. Photochem. Photobiol. A* **2023**, *445*, 114961.

22. Young Hyun Hong, Yong-Min Lee,* Wonwoo Nam,* Shunichi Fukuzumi* "Catalytic Production of Hydrogen Peroxide and Its Fuel Cells with Metalloporphyrins, Metallophthalocyanins and Analogs" *J. Porphyrins Phthalocyanines* **2023**, *27(1-4)*, 11–22.

23. Young Hyun Hong, Yong-Min Lee,* Wonwoo Nam,* Shunichi Fukuzumi* "Photochemistry and Photocatalysis of Transition-Metal Porphyrin Complexes and Analogues" *J. Porphyrins Phthalocyanines* **2023**, *27(7-10)*, 912–923.

24. Zhimin Wu, Xuan Zhang, Lanping Gao, Dongru Sun,* Yufen Zhao, Wonwoo Nam,* and Yong Wang* "Elusive Active Intermediates and Reaction Mechanisms of *ortho*-/*ipso*-Hydroxylation of Benzoic Acid by Hydrogen Peroxide Mediated by Bioinspired Iron(II) Catalysts" *Inorg. Chem.* **2023**, *62(35)*, 14261–14278.

25. Shunichi Fukuzumi,* Yong-Min Lee,* Wonwoo Nam* "The Structure and Reactivity of Metal-Oxygen/Water Complexes" *Bull. Japan Soc. Coord. Chem.* **2023**, accepted.

- 2022 -

26. Deepika G. Karmalkar,[†] Virginia A. Larson,[†] Deesha D. Malik, Yong-Min Lee, Mi Sook Seo, Jin Kim, Dovydas Vasiliauskas, Jason Shearer,* Nicolai Lehnert,* and Wonwoo Nam* "Preparation and Characterization of a Formally Ni^{IV}-Oxo Complex with a Triplet Ground State and Application in Oxidation Reactions" *J. Am. Chem. Soc.* **2022**, *144*, 22698-22712.

27. Young Hyun Hong, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Molecular photocatalytic water splitting by Mimicking Photosystems I and II" *J. Am. Chem. Soc.* **2022**, *144(2)*, 695–700.

28. Jindou Yang, Ping Li, Xialiang Li, Lisi Xie, Ni Wang, Haitao Lei, Chaochao Zhang, Wei Zhang, Yong-Min Lee, Weiqiang Zhang,* Rui Cao,* Shunichi Fukuzumi,* and Wonwoo Nam* "Crucial Roles of a Pendant Imidazole Ligand of a Cobalt Porphyrin Complex in the Stoichiometric and Catalytic Reduction of Dioxygen" *Angew. Chem. Int. Ed.* **2022**, *61(34)*, e202208143.

29. Ranjana Gupta, Xiao-Xi Li, Youngseob Lee, Mi Sook Seo, Yong-Min Lee, Sachiko Yanagisawa, Minoru Kubo, Ritimukta Sarangi,* Kyung-Bin Cho,* Shunichi Fukuzumi,* and Wonwoo Nam* "Heme Compound II Models in Chemoselectivity and Disproportionation Reactions" *Chem. Sci.* **2022**, *13(19)*, 5707–5717.

30. Jisheng Zhang, Yong-Min Lee, Mi Sook Seo, Shunichi Fukuzumi,* Wonwoo Nam* "Acid Catalysis in the Oxidation of Substrates by Mononuclear Manganese(III)-Aqua Complexes" *Inorg. Chem.* **2022**, *61(17)*, 6594–6603.

31. Jie Chen, Jinping Yao, Xiao-Xi Li, Yan Wang, Wenxun Song, Kyung-Bin Cho, Yong-Min Lee, Wonwoo Nam,* and Bin Wang* "Bromoacetic Acid-Promoted Nonheme Manganese-Catalyzed Alkane Hydroxylation Inspired by α-Ketoglutarate-Dependent Oxygenases" *ACS Catal.* **2022**, *12(11)*, 6756–6769.

32. Jisheng Zhang, Yong-Min Lee, Mi Sook Seo, Youngsuk Kim, Eunsung Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Oxidative versus basic asynchronous hydrogen atom transfer reactions of Mn(III)-hydroxo and Mn(III)-aqua complexes" *Inorg. Chem. Front.* **2022**, *9(13)*, 3233–3243.

33. Jie Chen, Xiu Luo, Ying Sun, Si Si, Yuankai Xu, Yong-Min Lee, Wonwoo Nam,* and Bin Wang* "Nonheme Iron-Catalyzed Enantioselective *cis*-Dihydroxylation of Aliphatic Acrylates as Mimics of Rieske Dioxygenases" *CCS Chem.* **2022**, *4(7)*, 2369–2381.

34. Deesha D. Malik, Yong-Min Lee,* and Wonwoo Nam* "Identification of a Cobalt(IV)-Oxo Intermediate as an Active Oxidant in Catalytic Oxidation Reactions" *Bull. Korean Chem. Soc.* **2022**, *43(8)*, 1075–1082.

35. Anran Zhou, Xuanyu Cao, Huanhuan Chen, Dongru Sun, Yufen Zhao, Wonwoo Nam,* and Yong Wang* "The chameleon-like nature of elusive cobalt-oxygen intermediates in C-H bond activation reactions" *Dalton Trans.* **2022**, *51(11)*, 4317–4323.

36. Jisheng Zhang, Yong-Min Lee, Mi Sook Seo, Madhuri Nilajakar, Shunichi Fukuzumi,* Wonwoo Nam* "A Contrasting Effect of Acid in Electron Transfer, Oxygen Atom Transfer, and Hydrogen Atom Transfer Reactions of a Nickel(III) Complex" *Inorg. Chem.* **2022**, *61(49)*, 19735–19747.

37. Hee Sun Park, Jae-Chang Lee, Myung-Hwa Jung, Yong-Min Lee, Wonwoo Nam, and Nam Hwi Hur* "A mixed-valence copper chloride coordination polymer composed of one-dimensional cationic and anionic substructures" *CrystEngComm* **2022**, *24(48)*, 8354–8362.

- 2021 -

38. Namita Sharma, Huai-Bo Zou, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "A Mononuclear Non-Heme Manganese(III)-Aqua Complex as an Oxygen Donor and an Electron Acceptor in Oxygen Atom Transfer Reactions via Electron Transfer" *J. Am. Chem. Soc.* **2021**, *143(3)*, 1521–1528.

39. Wenjuan Zhu, Semin Jang, Jin Xiong, Roman Ezhov, Xiao-Xi Li, Taeyeon Kim, Mi Sook Seo, Yong-Min Lee, Yulia N. Pushkar, Yisong Guo,* and Wonwoo Nam* "A Mononuclear Nonheme Iron(III)-Peroxo Complex with an Unprecedented High O-O Stretch and Electrophilic Reactivity" *J. Am. Chem. Soc.* **2021**, *143(38)*, 15556–15561.

40. Jindou Yang, Hai T. Dong, Mi Sook Seo, Virginia A. Larson, Yong-Min Lee, Jason Shearer,* Nicolai Lehnert,* and Wonwoo Nam* "The Oxo-Wall Remains Intact: A Tetrahedrally Distorted Co(IV)-Oxo Complex" *J. Am. Chem. Soc.* **2021**, *143(41)*, 16943–16959.

41. Mian Guo, Jisheng Zhang, Lina Zhang, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Enthalpy-Entropy Compensation Effect in Oxidation Reactions by Manganese(IV)-Oxo Porphyrins and Nonheme Iron(IV)-Oxo Models" *J. Am. Chem. Soc.* **2021**, *143(44)*, 18559–18570.

42. Xialiang Li, Xue-Peng Zhang, Mian Guo, Bin Lv, Kai Guo, Xiaotong Jin, Wei Zhang, Yong-Min Lee, Shunichi Fukuzumi,* Wonwoo Nam,* Rui Cao* "Identifying Intermediates in Electrocatalytic Water Oxidation with a Manganese Corrole Complex" *J. Am. Chem. Soc.* **2021**, *143(36)*, 14613–14621.

43. Xue-Peng Zhang, Anirban Chandra, Yong-Min Lee, Rui Cao,* Kallol Ray,* and Wonwoo Nam* "Transition Metal-Mediated O–O Bond Formation and Activation in Chemistry and Biology" *Chem. Soc. Rev.* **2021**, *58(8)*, 4804–4811.

44. Mian Guo, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Biomimetic Metal-Oxidant Adducts as Active Oxidants in Oxidation Reactions" *Coord. Chem. Rev.* **2021**, *435*, 213807.

45. Young Hyun Hong,[#] Yuri Jang,[#] Roman Ezhov, Mi Sook Seo, Yong-Min Lee, Bhawana Pandey, Seungwoo Hong, Yulia Pushkar,* Shunichi Fukuzumi,* and Wonwoo Nam* "A Highly Reactive Chromium(V)-Oxo TAML Cation Radical Complex in Electron Transfer and Oxygen Atom Transfer Reactions" *ACS Catal.* **2021**, *11(5)*, 2889–2901.

46. Atanu Rana, Yong-Min Lee, Xialiang Li, Rui Cao,* Shunichi Fukuzumi,* and Wonwoo

Nam* "Highly Efficient Catalytic Two-Electron Two-Proton Reduction of Dioxygen to Hydrogen Peroxide with a Cobalt Corrole Complex" *ACS Catal.* **2021**, *11(5)*, 3073–3083.

47. Xiao-Xi Li,[#] Shan-Shan Xue,[#] Xiaoyan Lu,[#] Mi Sook Seo, Yong-Min Lee, Won-Suk Kim, Kyung-Bin Cho,* and Wonwoo Nam* "Ligand Architecture Perturbation Influences the Reactivity of Nonheme Iron(V)-Oxo Tetraamido Macrocyclic Ligand Complexes: A Combined Experimental and Theoretical Study" *Inorg. Chem.* **2021**, *60(6)*, 4058–4067.

48. Tarali Devi, Yong-Min Lee, Wonwoo Nam and Shunichi Fukuzumi "Acid-Promoted Hydride Transfer from an NADH Analogue to a Cr(III)-Superoxo Complex *via* a Proton-Coupled Hydrogen Atom Transfer" *Dalton Trans.* **2021**, *50(2)*, 675–680.

49. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Recent Progress in Production and Usage of Hydrogen Peroxide" *Chin. J. Catal.* **2021**, *42(8)*, 1241–1252.

50. Yujeong Kim, Jin Kim, Linh K. Nguyen, Yong-Min Lee, Wonwoo Nam,* and Sun Hee Kim* "EPR Spectroscopy Elucidates the Electronic Structure of [Fe(V)(O)(TAML)] Complexes" *Inorg. Chem. Front.* **2021**, *8(15)*, 3775–3783.

51. Deesha D. Malik, Anirban Chandra, Mi Sook Seo, Yong-Min Lee, Erik R. Farquhar, Stefan Mebs, Holger Dau, Kallol Ray,* and Wonwoo Nam* "Formation of Cobalt-Oxygen Intermediates by Dioxygen Activation at a Mononuclear Nonheme Cobalt(II) Center" *Dalton Trans.* **2021**, *50(34)*, 11889–11898.

52. Deepika G. Karmalkar, Mi Sook Seo, Bhawana Pandey, Yong-Min Lee, Youngsuk Kim, Eunsung Lee,* Ritimukta Sarangi,* Shunichi Fukuzumi,* and Wonwoo Nam* "Deeper Understanding of Mononuclear Manganese(IV)-Oxo Binding Brønsted and Lewis Acids and the Manganese(IV)-Hydroxide Complex" *Inorg. Chem.* **2021**, *60(22)*, 16996–17007.

53. Yunhee Choi, Bhawana Pandey, Xiao-Xi Li,* Yong-Min Lee,* Kyung-Bin Cho,* Wonwoo Nam* "How Does Lewis Acid Affect the Reactivity of Mononuclear High-Valent Chromium-Oxo Species? A Theoretical Study" *Bull. Korean Chem. Soc.* **2021**, *42(11)*, 1501–1505.

54. Xiao-Xi Li, Kyung-Bin Cho,* Wonwoo Nam* "Electronic Properties and Reactivity Patterns of High-Valent Metal-Oxo Species of Mn, Fe, Co, and Ni" *Bull. Korean Chem. Soc.* **2021**, *42(11)*, 1506–1512.

55. Xiao-Xi Li, Xiaoyan Lu, Jae Woo Park,* Kyung-Bin Cho,* and Wonwoo Nam* "Nonheme Iron Imido Complexes Bearing a Non-Innocent Ligand: A Synthetic Chameleon Species in Oxidation Reactions" *Chem. – Eur. J.* **2021**, *27(69)*, 17495–17503.

56. Shunichi Fukuzumi,* Yong-Min Lee,* Wonwoo Nam* "Deuterium Kinetic Isotope

Effects as Redox Mechanistic Criterions" *Bull. Korean Chem. Soc.* **2021**, *42(12)*, 1558–1568.

57. Lanping Gao, Xiaolu Chen, Dongru Sun,∗ Hua Zhao, Yufen Zhao, Wonwoo Nam,∗ Yong Wang* "Theoretical investigation on the elusive biomimetic iron(III)-iodosylarene chemistry: An unusual hydride transfer triggers the Ritter reaction" *Chin. Chem. Lett.* **2021**, *32(12)*, 3857–3861.

- 2020 -

58. Tarali Devi, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Calcium Ion and Other Redox-Inactive Metal Ions Enable to Modulate Electron-Transfer Reactivity of a Chromium(III)-Superoxo Complex" *J. Am. Chem. Soc.* **2020**, *142(1)*, 365–372.

59. Xiaoyan Lu, Xiao-Xi Li, Yong-Min Lee, Yuri Jang, Mi Sook Seo, Seungwoo Hong,* Kyung-Bin Cho,* Shunichi Fukuzumi,* and Wonwoo Nam* "Electron-Transfer and Redox Reactivity of High-Valent Iron Imido and Oxo Complexes with the Formal Oxidation States of Five and Six" *J. Am. Chem. Soc.* **2020**, *142(8)*, 3891–3904.

60. Virginia Larson, Beatrice Battistella, Kallol Ray,* Nicolai Lehnert,* and Wonwoo Nam* "High-Valent Metal-Oxo Species: Iron and Manganese Oxo Complexes, Oxo Wall and Beyond" *Nat. Rev. Chem.* **2020**, *4*, 404–419.

61. Lina Zhang, Yong-Min Lee, Mian Guo, Shunichi Fukuzumi, and Wonwoo Nam* "Unprecedented Reactivities of Highly Reactive Manganese(III)-Iodosylarene Porphyrins in Oxidation Reactions" *J. Am. Chem. Soc.* **2020**, *142(47)*, 19879–19884.

62. Jindou Yang, Mi Sook Seo, Kyung Ha Kim, Yong-Min Lee, Shunichi Fukuzumi,* Jason Shearer,* and Wonwoo Nam* "Structure and Unprecedented Reactivity of a Mononuclear Nonheme Cobalt(III)-Iodosylbenzene Complex" *Angew. Chem. Int. Ed.* **2020**, *59(32)*, 13581–13585.

63. Shan-Shan Xue, Xiao-Xi Li, Yong-Min Lee, Mi Sook Seo, Yujeong Kim, Sachiko Yanagisawa, Minoru Kubo, Young-Kyo Jeon, Won-Suk Kim, Ritimukta Sarangi, Sun Hee Kim,* Shunichi Fukuzumi,* and Wonwoo Nam* "Enhanced Redox Reactivity of a Nonheme Iron(V)–Oxo Complex Binding Protons" *J. Am. Chem. Soc.* **2020**, *142(36)*, 15305–15319.

64. Tarali Devi, Yong-Min Lee,* Wonwoo Nam,* and Shunichi Fukuzumi* "Metal Ion-Coupled Electron-Transfer Reactions of Metal-Oxygen Complexes" *Coord. Chem. Rev.* **2020**, *410*, 213219.

65. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Photocatalytic Redox Reactions with Metalloporphyrins" *J. Porphyrins Phthalocyanines* **2020**, *24(1-3)*, 21–32.

66. Namita Sharma, Yong-Min Lee,* Wonwoo Nam,* and Shunichi Fukuzumi*

"Photoinduced Generation of Superoxidants that Enable to Oxidize Substrates with High C-H Bond Dissociation Energies" *ChemPhotoChem* **2020**, *4(4)*, 271–281.

67. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Bioinspired Artificial Photosynthesis Systems" *Tetrahedron* **2020**, *76(14)*, 131024.

68. Jie Chen, Zhankun Jiang, Shunichi Fukuzumi,* Wonwoo Nam* and Bin Wang* "Artificial nonheme iron and manganese oxygenases for enantioselective olefin epoxidation and alkane hydroxylation reactions" *Coord. Chem. Rev.* **2020**, *421*, 213443.

69. Jie Chen, Haiyang Gu, Xueying Zhu, Wonwoo Nam* and Bin Wang* "Zirconium-Salan Catalyzed Enantioselective α-Hydroxylation of β-Keto Esters" *Adv. Syn. Catal.* **2020**, *362(14)*, 2976–2983.

70. Xiaoyan Lu, Yong-Min Lee, Mi Sook Seo and Wonwoo Nam* "Proton-promoted disproportionation of iron(V)-imido TAML to iron(V)-imido TAML cation radical and iron(IV) TAML" *Chem. Commun.* **2020**, *56(76)*, 11207–11210.

71. Young Hyun Hong, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Photocatalytic Hydrogen Evolution from Plastoquinol Analogs as a Photosystem I Functional Model" *Inorg. Chem.* **2020**, *59(20)*, 14838–14846.

72. Namita Sharma, Yong-Min Lee,* Wonwoo Nam,* and Shunichi Fukuzumi* "Generation and Electron-Transfer Reactivity of the Long-Lived Photoexcited State of a Manganese(IV)-Oxo-Scandium Nitrate Complex" *Isr. J. Chem.* **2020**, *60(10-11)*, 1049–1056.

73. Kyu Hyung Lee, Sun Joo Kim, Hee Sun Park, Byung Wook Lim, Byeongno Lee, Young Jun Park, Wonwoo Nam and Nam Hwi Hur* "Stable carbamate pathway towards organic-inorganic hybrid perovskites and aromatic imines" *RSC Adv.* **2020**, *10*, 38055–38062.

74. Shunichi Fukuzumi,* Kyung-Bin Cho,* Yong-Min Lee,* Seungwoo Hong,* and Wonwoo Nam* "Mechanistic Dichotomies in Redox Reactions of Mononuclear Metal-Oxygen Intermediates" *Chem. Soc. Rev.* **2020**, *49(24)*, 8988–19027. (CRI: 21.12.21)

75. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Acid catalysis via acid-promoted electron transfer" *Bull. Korean Chem. Soc.* **2020**, *41(12)*, 1217–1232. (CRI: 21.12.20)

76. Xiaoyan Lu, Yong-Min Lee, Muniyandi Sankaralingam, Shunichi Fukuzumi* and Wonwoo Nam* "Catalytic four-electron reduction of dioxygen by ferrocene derivatives with a nonheme iron(III) TAML complex" *Inorg. Chem.* **2020**, *59(24)*, 18010–18017. (CRI: 21.12.21)

- 2019 -

77. Xiaoyan Lu, Xiao-Xi Li, Mi Sook Seo, Yong-Min Lee, Martin Clémancey, Pascale Maldivi, Jean-Marc Latour,* Ritimukta Sarangi,* Shunichi Fukuzumi,* and Wonwoo Nam* "A Mononuclear Nonheme Iron(IV)-Amido Complex Relevant for the Compound II Chemistry of Cytochrome P450" *J. Am. Chem. Soc.* **2019**, *141(1)*, 80–83.

78. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Kinetics and mechanisms of catalytic water oxidation" *Dalton Trans.* **2019**, *48(3)*, 779–798.

79. Muniyandi Sankaralingam, Yong-Min Lee, Yuliana Pineda-Galvan, Deepika G. Karmalkar, Mi Sook Seo, So Hyun Jeon, Yulia N. Pushkar,* Shunichi Fukuzumi,* and Wonwoo Nam* "Redox Reactivity of a Mononuclear Manganese-Oxo Complex Binding Calcium Ion and Other Redox-Inactive Metal Ions" *J. Am. Chem. Soc.* **2019**, *141(3)*, 1324–1336.

80. Yong-Min Lee, Surin Kim, Kei Ohkubo, Kyung-Ha Kim, Wonwoo Nam,* and Shunichi Fukuzumi* "Unified Mechanism of Oxygen Atom Transfer and Hydrogen Atom Transfer Reactions with a Triflic Acid-Bound Nonheme Manganese(IV)–Oxo Complex via Outer-Sphere Electron Transfer" *J. Am. Chem. Soc.* **2019**, *141(6)*, 2614–2622.

81. Young Hyun Hong, Jieun Jung, Tatsuo Nakagawa, Namita Sharma, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Photodriven Oxidation of Water by Plastoquinone Analogs with a Nonheme Iron Catalyst" *J. Am. Chem. Soc.* **2019**, *141(16)*, 6748–6754.

82. Seong Hee Bae, Xiao-Xi Li, Mi Sook Seo, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Tunneling Controls the Reaction Pathway in the Deformylation of Aldehydes by a Nonheme Iron(III)-Hydroperoxo Complex: Hydrogen Atom Abstraction versus Nucleophilic Addition" *J. Am. Chem. Soc.* **2019**, *141(19)*, 7675–7679.

83. Mian Guo,[$] Teresa Corona,[$] Kallol Ray,* and Wonwoo Nam* "Heme and Nonheme High-Valent Iron and Manganese Oxo Cores in Biological and Abiological Oxidation Reactions" *ACS Cent. Sci.* **2019**, *5(1)*, 13–28.

84. Mian Guo, Mi Sook Seo, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Highly Reactive Manganese(IV)-Oxo Porphyrins Showing Temperature-Dependent Reversed Electronic Effect in C-H Bond Activation Reactions" *J. Am. Chem. Soc.* **2019**, *141(31)*, 12187–12191.

85. Xenia Engelmann, Deesha D. Malik, Teresa Corona, Katrin Warm, Erik R. Farquhar, Marcel Swart, Wonwoo Nam,* and Kallol Ray* "Trapping of a Highly Reactive Oxoiron(IV) Complex in the Catalytic Epoxidation of Olefins by Hydrogen Peroxide" *Angew. Chem. Int. Ed.* **2019**, *58(12)*, 4012–4016.

86. Young Hyun Hong, Ji Won Han, Jieun Jung, Tatsuo Nakagawa, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Photocatalytic Oxygenation Reactions with a Cobalt Porphyrin Complex Using Water as an Oxygen Source and Dioxygen as an

Oxidant" *J. Am. Chem. Soc.* **2019**, *141(23)*, 9155–9159.

87. Deepika G. Karmalkar, Muniyandi Sankaralingam, Mi Sook Seo, Roman Ezhov, Yong-Min Lee, Yulia N. Pushkar,* Won-Suk Kim,* Shunichi Fukuzumi,* and Wonwoo Nam* "A High-Valent Manganese(IV)-Oxo-Ce(IV) Complex and Its Enhanced Oxidizing Reactivity" *Angew. Chem. Int. Ed.* **2019**, *58(45)*, 16124–16129.

88. Chien-Ming Lee,* Muniyandi Sankaralingam, Chi-He Chuo, Tzu-Hsien Tseng, Peter P.-Y. Chen,* Ming-Hsi Chiang,* Xiao-Xi Li, Yong-Min Lee, and Wonwoo Nam* "A Mn(IV)-peroxo complex in the reactions with proton donors" *Dalton Trans.* **2019**, *48(16)*, 5203–5213.

89. Nami Fukui, Xiao-Xi Li, Wonwoo Nam,* Shunichi Fukuzumi,* and Hiroshi Fujii* "Small Reorganization Energy for Ligand-Centered Electron-Transfer Reduction of Compound I to Compound II in a Heme Model Study" *Inorg. Chem.* **2019**, *58(13)*, 8263−8266.

90. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Structure and reactivity of first-row d-block metal-superoxo complexes" *Dalton Trans.* **2019**, *48(26)*, 9469–9489.

91. Tarali Devi, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Aromatic Hydroxylation of Anthracene Derivatives by a Chromium(III)-Superoxo Complex via Proton-Coupled Electron Transfer" *Chem. Commun.* **2019**, *55(57)*, 8286–8289.

92. Xiao-Xi Li, Kyung-Bin Cho* and Wonwoo Nam* "A theoretical investigation into the first-row transition metal-O_2 adducts" *Inorg. Chem. Front.* **2019**, *6(8)*, 2071–2081.

93. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Photocatalytic Oxygenation Reactions Using Water and Dioxygen" *ChemSusChem* **2019**, *12(17)*, 3931–3940.

94. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Catalytic Recycling of NAD(P)H" *J. Inorg. Biochem.* **2019**, *199*, 110777.

95. Namita Sharma, Yong-Min Lee, Xiao-Xi Li, Wonwoo Nam,* and Shunichi Fukuzumi* "Singly Unified Driving Force Dependence of Outer-Sphere Electron-Transfer Pathways of Nonheme Manganese(IV)-Oxo Complexes in the Absence and Presence of Lewis Acids" *Inorg. Chem.* **2019**, *58(20)*, 13761–13765.

96. Namita Sharma, Yong-Min Lee, Xiao-Xi Li, Wonwoo Nam,* and Shunichi Fukuzumi* "Regioselective Oxybromination of Benzene and Its Derivatives by Bromide Anion with a Mononuclear Nonheme Mn(IV)-Oxo Complex" *Inorg. Chem.* **2019**, *58(21)*, 14299–14303.

97. Xiao-Xi Li, Mian Guo, Bin Qiu, Kyung-Bin Cho,* Wei Sun,* and Wonwoo Nam* "High-Spin Mn(V)-Oxo Intermediate in Nonheme Manganese Complex-Catalyzed Alkane Hydroxylation Reaction: Experimental and Theoretical Approach" *Inorg. Chem.* **2019**, *58(21)*, 14842-14852.

- 2018 -

98. Wonwoo Nam,* Yong-Min Lee, and Shunichi Fukuzumi* "Hydrogen Atom Transfer Reactions of Mononuclear Nonheme Metal-Oxygen Intermediates" *Acc. Chem. Res.* **2018**, *51(9)*, 2014–2022.

99. Muniyandi Sankaralingam, Yong-Min Lee, Deepika G. Karmalkar, Wonwoo Nam,* and Shunichi Fukuzumi* "A Mononuclear Nonheme Manganese(III)-Aqua Complex as a New Active Oxidant in Hydrogen Atom Transfer Reactions" *J. Am. Chem. Soc.* **2018**, *140(40)*, 12695–12699.

100. Tarali Devi, Yong-Min Lee, Wonwoo Nam* and Shunichi Fukuzumi* "Remarkable Acid Catalysis in Proton-Coupled Electron-Transfer Reactions of a Chromium(III)-Superoxo Complex" *J. Am. Chem. Soc.* **2018**, *140(27)*, 8372–8375.

101. Namita Sharma, Jieun Jung, Kei Ohkubo, Yong-Min Lee, Mohamed E. El-Khouly, Wonwoo Nam,* and Shunichi Fukuzumi* "Long-Lived Photoexcited State of a Mn(IV)-Oxo Complex Binding Scandium Ions That is Capable of Hydroxylating Benzene" *J. Am. Chem. Soc.* **2018**, *140(27)*, 8405–8409.

102. Muniyandi Sankaralingam, Yong-Min Lee, So Hyun Jeon, Mi Sook Seo, Kyung-Bin Cho, and Wonwoo Nam* "A mononuclear manganese(III)-hydroperoxo complex: synthesis by activating dioxygen and reactivity in electrophilic and nucleophilic reactions" *Chem. Commun.* **2018**, *54(10)*, 1209–1212.

103. Shunichi Fukuzumi,* Yong-Min Lee* and Wonwoo Nam* "Mechanisms of Two-Electron versus Four-Electron Reduction of Dioxygen Catalyzed by Earth-Abundant Metal Complexes" *ChemCatChem* **2018**, *10(1)*, 9–28.

104. Shunichi Fukuzumi,* Yong-Min Lee and Wonwoo Nam* "Thermal and photocatalytic production of hydrogen with earth-abundant metal complexes" *Coord. Chem. Rev.* **2018**, *355*, 54–73.

105. Bin Qiu, Daqian Xu, Qiangsheng Sun, Chengxia Miao, Yong-Min Lee, Xiao-Xi Li, Wonwoo Nam,* and Wei Sun* "Highly Enantioselective Oxidation of Spirocyclic Hydrocarbons by Bioinspired Manganese Catalysts and Hydrogen Peroxide" *ACS Catal.* **2018**, *8(3)*, 2479–2487.

106. Shunichi Fukuzumi,* Yong-Min Lee,* Jieun Jung, and Wonwoo Nam* "Thermal and photocatalytic oxidation of organic substrates by dioxygen with water as an electron source" *Green Chem.* **2018**, *20(5)*, 948–963.

107. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Artificial Photosynthesis for Production of ATP, NAD(P)H, and Hydrogen Peroxide" *ChemPhotoChem* **2018**, *2(3*), 121–135.

108. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Solar-Driven Production

of Hydrogen Peroxide from Water and Dioxygen" *Chem.–Eur. J.* **2018**, *24(20)*, 5016–5031.

109. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Immobilization of Molecular Catalysts for Enhanced Redox Catalysis" *ChemCatChem* **2018**, *10(8)*, 1686–1702.

110. Junyi Du, Chengxia Miao, Chungu Xia, Yong-Min Lee, Wonwoo Nam,* and Wei Sun* "Mechanistic Insights into the Enantioselective Epoxidation of Olefins by Bioinspired Manganese Complexes: Role of Carboxylic Acid and Nature of Active Oxidant" *ACS Catal.* **2018**, *8(5)*, 4528–4538.

111. Muniyandi Sankaralingam, Yong-Min Lee,* Wonwoo Nam,* and Shunichi Fukuzumi* "Amphoteric reactivity of metal-oxygen complexes in oxidation reactions" *Coord. Chem. Rev.* **2018**, *365*, 41–59.

112. Shunichi Fukuzumi,* Yong-Min Lee,* Hyun S. Ahn* and Wonwoo Nam* "Mechanisms of Catalytic Reduction of CO_2 with Heme and Nonheme Metal Complexes" *Chem. Sci.* **2018**, *9(28)*, 6017–6034.

113. Mian Guo, Yong-Min Lee, Mi Sook Seo, Yong-Ju Kwon, Xiao-Xi Li, Takehiro Ohta, Won-Suk Kim, Ritimukta Sarangi,* Shunichi Fukuzumi,* and Wonwoo Nam* "Mn(III)-Iodosylarene Porphyrins as an Active Oxidant in Oxidation Reactions: Synthesis, Characterization, and Reactivity Studies" *Inorg. Chem.* **2018**, *57(16)*, 10232–10240.

114. Claudio Saracini, Deesha D. Malik, Muniyandi Sankaralingam, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Enhanced Electron-Transfer Reactivity of a Long-Lived Photoexcited State of a Cobalt-Oxygen Complex" *Inorg. Chem.* **2018**, *57(17)*, 10945–10952.

115. Seungwoo Hong, James J. Yan, Deepika G. Karmalkar, Kyle D. Sutherlin, Jin Kim, Yong-Min Lee, Yire Goo, Pradip K. Mascharak, Britt Hedman,* Keith O. Hodgson,* Kenneth D. Karlin,* Edward I. Solomon,* and Wonwoo Nam* "A mononuclear nonheme $\{FeNO\}^6$ complex: synthesis and structural and spectroscopic characterization" *Chem. Sci.* **2018**, *9(34)*, 6952–6960.

116. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Mimicry and Functions of Photosynthetic Reaction Centers" *Biochem. Soc. Trans.* **2018**, *46(5)*, 1279–1288.

117. Claudio Saracini, Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Phooexcited state chemistry of metal-oxygen complexes" *Dalton Trans.* **2018**, *47(45)*, 16019-16026.

118. Deepika G. Karmalkar, Xiao-Xi Li, Mi Sook Seo, Muniyandi Sankaralingam, Takehiro Ohta, Ritimukta Sarangi,* Seungwoo Hong,* and Wonwoo Nam* "A Manganese(V)-Oxo Tetraamido Macrocyclic Ligand (TAML) Cation Radical Complex: Synthesis,

Characterization, and Reactivity Studies" *Chem.–Eur. J.* **2018**, *24(68)*, 17927-17931.

- 2017 -

119. Seungwoo Hong, Kyle D. Sutherlin, Anil Kumar Vardhaman, James J. Yan, Sora Park, Yong-Min Lee, Soojeong Jang, Xiaoyan Lu, Takehiro Ohta, Takashi Ogura, Edward I. Solomon* and Wonwoo Nam* "A Mononuclear Nonheme Iron(V)-Imido Complex Bearing a Macrocyclic Tetraamide Ligand" *J. Am. Chem. Soc.* **2017**, *139(26)*, 8800–8803.

120. Seungwoo Hong, Xiaoyan Lu, Yong-Min Lee, Mi Sook Seo, Takehiro Ohta, Takashi Ogura, Martin Clémancey, Pascale Maldivi,* Jean-Marc Latour,* Ritimukta Sarangi,* and Wonwoo Nam* "Achieving One-Electron Oxidation of a Mononuclear Nonheme Iron(V)-Imido Complex" *J. Am. Chem. Soc.* **2017**, *139(41)*, 14372–14375.

121. Mian Guo, Yong-Min Lee, Ranjana Gupta, Mi Sook Seo, Takehiro Ohta, Hua-Hua Wang, Hai-Yang Liu, Sunder N. Dhuri, Ritimukta Sarangi,* Shunichi Fukuzumi,* and Wonwoo Nam* "Dioxygen Activation and O-O Bond Formation Reactions by Manganese Corroles" *J. Am. Chem. Soc.* **2017**, *139(44)*, 15858–15867.

122. Yiran Kang, Xiao-Xi Li, Kyung-Bin Cho, Wei Sun, Chungu Xia, Wonwoo Nam* and Yong Wang* "Mutable Properties of Nonheme Iron(III)−Iodosylarene Complexes Result in the Elusive Multiple-Oxidant Mechanism" *J. Am. Chem. Soc.* **2017**, *139(22)*, 7444–7447.

123. Seong Hee Bae, Yong-Min Lee, Shunichi Fukuzumi* and Wonwoo Nam* "Fine control of the redox reactivity of a nonheme iron(III)-peroxo complex by binding of redox-inactive metal ions" *Angew. Chem. Int. Ed.* **2017**, *56(3)*, 801–805.

124. Tarali Devi, Yong-Min Lee, Jieun Jung, Muniyandi Sankaralingam, Wonwoo Nam* and Shunichi Fukuzumi* "A Chromium(III)-Superoxo Complex as a Three-Electron Oxidant with a Large Tunneling Effect in Multi-Electron Oxidation of NADH Analogs" *Angew. Chem. Int. Ed.* **2017**, *56(13)*, 3510–3515.

125. Inés Monte Pérez, Xenia Engelmann, Yong-Min Lee, Mi Yoo, Elumalai Kumaran, Erik R. Farquhar, Eckhard Bill, Jason England, Wonwoo Nam,* Marcel Swart,* and Kallol Ray* "A Highly Reactive Oxoiron(IV) Complex Supported by a Bioinspired N_3O Macrocylic Ligand" *Angew. Chem. Int. Ed.* **2017**, *56(46)*, 14384–14388.

126. Bin Wang, Yong-Min Lee, Woon-Young Tcho, Samat Tussupbayev, Seoung-Tae Kim, Yujeong Kim, Mi Sook Seo, Kyung-Bin Cho, Yavuz Dede, Brenna C. Keegan, Takashi Ogura, Sun Hee Kim,* Takehiro Ohta,* Mu-Hyun Baik,* Kallol Ray,* Jason Shearer,* and Wonwoo Nam* "Synthesis and reactivity of a mononuclear non-haem cobalt(IV)-oxo complex" *Nature Commun.* **2017**, *8*, 14839; DOI: 10.1038/ncomms14839.

127. Shunichi Fukuzumi,* Takahiko Kojima,* Yong-Min Lee and Wonwoo Nam* "High-

valent metal-oxo complexes generated in catalytic oxidation reactions using water as an oxygen source" *Coord. Chem. Rev.* **2017**, *333*, 44–56.

128. Seungwoo Hong, Yong-Min Lee, Kallol Ray* and Wonwoo Nam* "Dioxygen activation chemistry by synthetic mononuclear nonheme iron, copper and chromium complexes" *Coord. Chem. Rev.* **2017**, *334*, 25–42.

129. Na Young Lee, Debasish Mandal, Seong Hee Bae, Mi Sook Seo, Yong-Min Lee, Sason Shaik, Kyung-Bin Cho,* and Wonwoo Nam* "Structure and Spin State of Nonheme $Fe^{IV}O$ Complexes Depending on Temperature: Predictive Insights from DFT Calculations and Experiments" *Chem. Sci.* **2017**, *8(8)*, 5460–5467.

130. Ji Won Han, Jieun Jung, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Photocatalytic Oxidation of Benzene to Phenol Using Dioxygen as an Oxygen Source and Water as an Electron Source in the Presence of a Cobalt Catalyst" *Chem. Sci.* **2017**, *8(10)*, 7119–7125.

131. Chengxia Miao, Xiao-Xi Li, Yong-Min Lee, Chungu Xia, Yong Wang, Wonwoo Nam,* and Wei Sun* "Manganese Complex-Catalyzed Oxidation and Oxidative Kinetic Resolution of Secondary Alcohols by Hydrogen Peroxide" *Chem. Sci.* **2017**, *8(11)*, 7476–7482.

132. Ranjana Gupta, Xiao-Xi Li, Kyung-Bin Cho, Mian Guo, Yong-Min Lee, Yong Wang,* Shunichi Fukuzumi,* and Wonwoo Nam* "Tunneling Effect That Changes the Reaction Pathway from Epoxidation to Hydroxylation in the Oxidation of Cyclohexene by a Compound I Model of Cytochrome P450" *J. Phys. Chem. Lett.* **2017**, *8(7)*, 1557–1561.

133. Shunichi Fukuzumi,* Jieun Jung, Yong-Min Lee and Wonwoo Nam* "Effects of Lewis Acids on Photoredox Catalysis" *Asian J. Org. Chem.* **2017**, *6(4)*, 397–409.

134. Muniyandi Sankaralingam, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Selective Oxygenation of Cycloalkenes by Dioxygen via an Iron(V)-Oxo Complex-Autocatalyzed Reaction" *Inorg. Chem.* **2017**, *56(9)*, 5096–5104.

135. Xiao-Xi Li, Verknica Postils, Wei Sun, Abayomi S. Faponle, Miquel Solà, Yong Wang,* Wonwoo Nam* and Sam P. de Visser* "Reactivity Patterns of (Protonated) Compound II and Compound I of Cytochrome P450: Which is the Better Oxidant?" *Chem.–Eur. J.* **2017**, *23(26)*, 6406–6418.

136. Namita Sharma, Jieun Jung, Yong-Min Lee, Mi Sook Seo, Wonwoo Nam,* and Shunichi Fukuzumi* "Multi-Electron Oxidation of Anthracene Derivatives by Nonheme Manganese(IV)-Oxo Complexes" *Chem.–Eur. J.* **2017**, *23(29)*, 7125–7131.

137. Muniyandi Sankaralingam, Yong-Min Lee, Xiaoyan Lu, Anil Kumar Vardhaman, Wonwoo Nam,* and Shunichi Fukuzumi* "Autocatalytic dioxygen activation to produce an iron(V)-oxo complex without any reductants" *Chem. Commun.* **2017**, *53(59)*,

8348–8351.

138. Mohamed E. El-Khouly,* Ahmed El-Refaey, Wonwoo Nam,* Shunichi Fukuzumi,* Özge Göktuğ and Mahmut Durmuş* "A subphthalocyanine–pyrene dyad: electron transfer and singlet oxygen generation" *Photochem. Photobiol. Sci.* **2017**, *16(10)*, 1512–1518.

139. Yong-Min Lee, Mi Yoo, Heejung Yoon, Xiao-Xi Li, Wonwoo Nam* and Shunichi Fukuzumi* "Direct oxygen atom transfer *versus* proton-coupled electron transfer mechanisms in the phosphine oxidation by nonheme Mn(IV)-oxo complexes" *Chem. Commun.* **2017**, *53(67)*, 9352–9355.

140. Shunichi Fukuzumi,* Yong-Min Lee,* and Wonwoo Nam* "Fuel Production from Seawater and Fuel Cells Using Seawater" *ChemSusChem* **2017**, *10(22)*, 4264–4276.

- 2016 -

141. Bin Wang, Yong-Min Lee, Martin Clémancey, Mi Sook Seo, Ritimukta Sarangi,* Jean-Marc Latour* and Wonwoo Nam* "Mononuclear Nonheme High-Spin Iron(III)-Acylperoxo Complexes in Olefin Epoxidation and Alkane Hydroxylation Reactions" *J. Am. Chem. Soc.* **2016**, *138(7)*, 2426–2436.

142. Chengxia Miao, Bin Wang, Yong Wang, Chungu Xia, Yong-Min Lee, Wonwoo Nam,* and Wei Sun* "Proton-Promoted and Anion-Enhanced Epoxidation of Olefins by Hydrogen Peroxide in the Presence of Nonheme Manganese Catalysts" *J. Am. Chem. Soc.* **2016**, *138(3)*, 936–943.

143. Pankaj Kumar, Yong-Min Lee, Lianrui Hu, Jianwei Chen, Young Jun Park, Jiannian Yao, Hui Chen,* Kenneth D. Karlin* and Wonwoo Nam* "Factors That Control the Reactivity of Cobalt(III)-Nitrosyl Complexes in Nitric Oxide Transfer and Dioxygenation Reactions: A Combined Experimental and Theoretical Investigation" *J. Am. Chem. Soc.* **2016**, *138(24)*, 7753–7762.

144. Seungwoo Hong, Yong-Min Lee, Young Jun Park, Kyung-Bin Cho, Takashi Ogura, Ritimukta Sarangi,* Shunichi Fukuzumi* and Wonwoo Nam* "A Manganese(V)-Oxo Complex: Synthesis by Dioxygen Activation and Enhancement of Its Oxidizing Power by Binding Scandium Ion" *J. Am. Chem. Soc.* **2016**, *138(27)*, 8523–8532.

145. Surin Kim, Kyung-Bin Cho, Yong-Min Lee, Junying Chen, Shunichi Fukuzumi* and Wonwoo Nam* "Factors Controlling the Chemoselectivity in the Oxidation of Olefins by Nonheme Manganese(IV)-Oxo Complexes" *J. Am. Chem. Soc.* **2016**, *138(33)*, 10654–10663.

146. Kyle D. Sutherlin, Lei V. Liu, Yong-Min Lee, Yeonju Kwak, Yoshitaka Yoda, Makina Saito, Masayuki Kurokuzu, Yasuhiro Kobayashi, Makoto Seto, Lawrence Que, Jr.,* Wonwoo Nam,* and Edward I. Solomon* "Nuclear resonance vibrational spectroscopic

definition of peroxy intermediates in non-heme iron sites" *J. Am. Chem. Soc.* **2016**, *138(43)*, 14294–14302.

147. Duyi Shen, Claudio Saracini, Yong-Min Lee, Wei Sun,* Shunichi Fukuzumi,* and Wonwoo Nam* "Photocatalytic Asymmetric Epoxidation of Terminal Olefins Using Water as an Oxygen Source in the Presence of a Mononuclear Nonheme Chiral Manganese Complex" *J. Am. Chem. Soc.* **2016**, *138(49)*, 15857–15860.

148. Anil Kumar Vardhaman, Yong-Min Lee, Jieun Jung, Kei Ohkubo, Wonwoo Nam* and Shunichi Fukuzumi* "Enhanced Electron-Transfer Reactivity of a Nonheme Iron(IV)-Imido Complex as Compared to the Iron(IV)-Oxo Analogue" *Angew. Chem. Int. Ed.* **2016**, *55(11)*, 3709–3713.

149. Jieun Jung, Surin Kim, Yong-Min Lee, Wonwoo Nam* and Shunichi Fukuzumi* "Switchover of Mechanism between Electron Transfer and Hydrogen Atom Transfer of a Protonated Manganese(IV)-Oxo Complex by Changing Only Reaction Temperature" *Angew. Chem. Int. Ed.* **2016**, *55(26)*, 7450–7454.

150. Seong Hee Bae,[$] Mi Sook Seo,[$] Yong-Min Lee, Kyung-Bin Cho, Won-Suk Kim and Wonwoo Nam* "Mononuclear Nonheme High-Spin (S = 2) versus Intermediate-Spin (S = 1) Iron(IV)-Oxo Complexes in Oxidation Reactions" *Angew. Chem. Int. Ed.* **2016**, *55(28)*, 8027–8031.

151. Seungwoo Hong, Pankaj Kumar, Kyung-Bin Cho, Yong-Min Lee, Kenneth D. Karlin* and Wonwoo Nam* "Mechanistic Insights into the Nitric Oxide Dioxygenase Reactivities of Manganese(IV)-Peroxo and Iron(III)-Superoxo" *Angew. Chem. Int. Ed.* **2016**, *55(40)*, 12403–12407.

152. Kyung-Bin Cho,* Hajime Hirao,* Sason Shaik* and Wonwoo Nam* "To rebound or dissociate? This is the mechanistic question in C-H hydroxylation by heme and nonheme metal-oxo complexes" *Chem. Soc. Rev.* **2016**, *45(5)*, 1197–1210.

153. Kyung-Bin Cho and Wonwoo Nam* "A theoretical study into a trans-dioxo Mn^{V} porphyrin complex that does not follow the oxygen rebound mechanism in C–H bond activation reactions" *Chem. Commun.* **2016**, *52(5)*, 904–907.

154. Seungwoo Hong, Soojeong Jang, Kyung-Bin Cho[$] and Wonwoo Nam* "Intermetal oxygen atom transfer from an $Fe^{V}O$ complex to a Mn^{III} complex: Experimental and theoretical approach" *Chem. Commun.* **2016**, *52(88)*, 12968–12971.

155. Isaac Garcia-Bosch, Ryan E. Cowley, Daniel E. Díaz, Maxime A. Siegler, Wonwoo Nam,* Edward I. Solomon* and Kenneth D. Karlin* "Dioxygen Activation by a Macrocyclic Copper Complex Leads to a Cu_2O_2 Core with Unexpected Structure and Reactivity" *Chem.–Eur. J.* **2016**, *22(15)*, 5133–5137.

156. Muniyandi Sankaralingam, So Hyun Jeon, Yong-Min Lee, Mi Sook Seo, Kei Ohkubo, Shunichi Fukuzumi* and Wonwoo Nam* "An amphoteric reactivity of a mixed-valent

bis(μ-oxo)dimanganese(III,IV) complex acting as an electrophile and a nucleophile" *Dalton Trans.* **2016**, *45(1)*, 376–383.

157. Woon-Young Tcho, Bin Wang, Yong-Min Lee, Kyung-Bin Cho, Jason Shearer* and Wonwoo Nam* "A mononuclear nonheme cobalt(III)-hydroperoxo complex with an amphoteric reactivity in electrophilic and nucleophilic oxidative reactions" *Dalton Trans.* **2016**, *45(37)*, 14511–14515.

158. Subrata Kundu, Petko Chernev, Xenia Engelmann, Chan Siu Chung, Holger Dau, Eckhard Bill, Jason England,* Wonwoo Nam* and Kallol Ray* "A Cobalt(II) Iminoiodane Complex and its Scandium Adduct: Mechanistic Promiscuity in Hydrogen Atom Abstraction Reactions" *Dalton Trans.* **2016**, *45(37)*, 14538–14543.

159. Shunichi Fukuzumi,* Jieun Jung, Yusuke Yamada,* Takahiko Kojima* and Wonwoo Nam* "Homogeneous and Heterogeneous Photocatalytic Water Oxidation by Persulfate" *Chem.–Asian J.* **2016**, *11(8)*, 1138–1150.

160. Shunichi Fukuzumi* and Wonwoo Nam* "Thermal and photoinduced electron-transfer catalysis of high-valent metal-oxo porphyrins in oxidation of substrates" *J. Porphyrins Phthalocyanines* **2016**, *20***,** 35–44.

- 2015 -

161. Wonwoo Nam* "Synthetic Mononuclear Nonheme Iron-Oxygen Intermediates" *Acc. Chem. Res.* **2015**, *48(8)*, 2415–2423.

162. Pankaj Kumar, Yong-Min Lee, Young Jun Park, Kenneth D. Karlin* and Wonwoo Nam* "Reactions of Co(III)–Nitrosyl Complexes with Superoxide and Their Mechanistic Insights" *J. Am. Chem. Soc.* **2015**, *137(13)*, 4284–4287.

163. Sunder N. Dhuri, Kyung-Bin Cho, Yong-Min Lee, Sun Young Shin, Jin Hwa Kim, Debasish Mandal, Sason Shaik and Wonwoo Nam* "Interplay of Experiment and Theory in Elucidating Mechanisms of Oxidation Reactions by a Nonheme $Ru^{IV}O$ Complex" *J. Am. Chem. Soc.* **2015**, *137(26)*, 8623–8632.

164. Bin Wang, Yong-Min Lee, Mi Sook Seo, and Wonwoo Nam* "Mononuclear Nonheme Iron(III)-Iodosylarene and High-Valent Iron-Oxo Complexes in Olefin Epoxidation Reactions" *Angew. Chem. Int. Ed.* **2015**, *54(40)*, 11740–11744.

165. Junying Chen, Heejung Yoon, Yong-Min Lee, Mi Sook Seo, Ritimukta Sarangi, Shunichi Fukuzumi* and Wonwoo Nam* "Tuning the reactivity of mononuclear nonheme manganese(IV)-oxo complexes by triflic acid" *Chem. Sci.* **2015**, *6(6)*, 3624–3632.

166. Yoon Hye Kwon, Binh Khanh Mai, Yong-Min Lee, Sunder N. Dhuri, Debasish Mandal, Kyung-Bin Cho,* Yongho Kim,* Sason Shaik* and Wonwoo Nam* "Interplay of Two-State Reactivity and H-Tunneling Determines The Experimental Regioselectivity of

Cyclohexehe Oxidation by Nonheme Iron(IV)-Oxo Complexes" *J. Phys. Chem. Lett.* **2015**, *6(8)*, 1472–1476.

167. Xiujuan Wu, Xiaonan Yang, Yong-Min Lee, Wonwoo Nam,* and Licheng Sun* "A Nonheme Manganese(IV)-Oxo Species Generated in Photocatalytic Reaction Using Water as an Oxygen Source" *Chem. Commun.* **2015**, *51(19)*, 4013–4016.

168. Junying Chen, Kyung-Bin Cho, Yong-Min Lee, Yoon Hye Kwon, and Wonwoo Nam* "Mononuclear Nonheme Iron(IV)-Oxo and Manganese(IV)-Oxo Complexes in Oxidation Reactions: Experimental Results Prove Theoretical Prediction" *Chem. Commun.* **2015**, *51(66)*, 13094–13097.

169. Kallol Ray*, Florian Heims, Matthias Schwalbe* and Wonwoo Nam* "High-valent metal-oxo intermediates in energy demanding processes: from dioxygen reduction to water splitting" *Curr. Opin. Chem. Biol.* **2015**, *25(1)*, 159–171.

170. Yong-Min Lee, Suhee Bang, Heejung Yoon, Seong Hee Bae, Seungwoo Hong, Kyung-Bin Cho, Shunichi Fukuzumi* and Wonwoo Nam* "Tuning the Redox Properties of Nonheme Fe(III)-Peroxo Complex Binding Redox-Inactive Zinc Ion by Water Molecules" *Chem.–Eur. J.* **2015**, *21(30)*, 10676–10680.

171. Shunichi Fukuzumi,* Kei Ohkubo, Yong-Min Lee, and Wonwoo Nam* "Lewis Acid-Coupled Electron Transfer of Metal-Oxygen Intermediates" *Chem.–Eur. J.* **2015**, *21(49)*, 17548–17559.

172. Sunder N. Dhuri, Yong-Min Lee, Mi Sook Seo, Jaeheung Cho, Dattaprasad D. Narulkar, Shunichi Fukuzumi* and Wonwoo Nam* "Mechanistic insight into the reactions of hydride transfer *versus* hydrogen atom transfer by a *trans*-dioxoruthenium(VI) complex" *Dalton Trans.* **2015**, *44(16)*, 7634–7642.

173. Jiyun Park, Yong-Min Lee, Kei Ohkubo, Wonwoo Nam,* and Shunichi Fukuzumi* "Efficient Oxidative Coupling vs Epoxidation of Styrene Derivatives by a Nonheme Iron(IV)-Oxo Complex via Proton-Coupled Electron Transfer with Triflic Acid" *Inorg. Chem.* **2015**, *54(12)*, 5806–5812.

174. Seung Yeon Ryu, Mijoung Huh, Youngmin You,* and Wonwoo Nam* "Phosphorescent Zinc Probe for Reversible Turn-On Detection with Bathochromically Shifted Emission" *Inorg. Chem.* **2015**, *54(20)*, 9704–9714.

175. Yi Re Goo, Annada C. Maity, Kyung-Bin Cho, Yong-Min Lee, Mi Sook Seo, Young Jun Park, Jaeheung Cho* and Wonwoo Nam* "Tuning the Reactivity of Chromium(III)-Superoxo Species by Coordinating Axial Ligands Capacity" *Inorg. Chem.* **2015**, *54(21)*, 10513–10520.

- 2014 -

176. Suhee Bang, Yong-Min Lee, Seungwoo Hong, Yusuke Nishida, Mi Sook Seo, Shunichi

Fukuzumi*, and Wonwoo Nam* "Redox-inactive metal ions modulate the reactivity and oxygen release of mononuclear non-haem iron(III)-peroxo complexes" *Nature Chemistry* **2014**, *6(10)*, 934–940.

177. Wonwoo Nam,* Yong-Min Lee, and Shunichi Fukuzumi* "Tuning Reactivity and Mechanism in Oxidation Reactions by Mononuclear Nonheme Iron(IV)-Oxo Complexes" *Acc. Chem. Res.* **2014**, *47(4)*, 1146–1154.

178. Yusuke Nishida, Yong-Min Lee, Wonwoo Nam* and Shunichi Fukuzumi* "Autocatalytic Formation of an Iron(IV)-Oxo Complex via Scandium Ion-Promoted Radical Chain Autoxidation of an Iron(II) Complex with Dioxygen and Tetraphenylborate" *J. Am. Chem. Soc.* **2014**, *136(22)*, 8042–8049.

179. Scott D. Hicks, Doyeon Kim, Silei Xiong, Grigori A Medvedev, James Michael Caruthers, Seungwoo Hong, Wonwoo Nam*, and Mahdi M Abu-Omar* "Non-Heme Manganese Catalysts for On-Demand Production of Chlorine Dioxide in Water and Under Mild Conditions" *J. Am. Chem. Soc.* **2014**, *136(9)*, 3680–3686.

180. Hee So, Young Jun Park, Kyung-Bin Cho, Yong-Min Lee, Mi Sook Seo, Jaeheung Cho, Ritimukta Sarangi* and Wonwoo Nam* "Spectroscopic Characterization and Reactivity Studies of a Mononuclear Nonheme Mn(III)-Hydroperoxo Complex" *J. Am. Chem. Soc.* **2014***, 136(35),* 12229–12232.

181. Kallol Ray,* Florian Felix Pfaff, Bin Wang, and Wonwoo Nam* "Status of Reactive Non-Heme Metal-Oxygen Intermediates in Chemical and Enzymatic Reactions" *J. Am. Chem. Soc.* **2014**, *136(40)*, 13942–13958.

182. Seungwoo Hong, Kyle D. Sutherlin, Jiyoung Park, Eunji Kwon, Maxime A. Siegler, Edward I. Solomon* and Wonwoo Nam* "A mononuclear nonheme iron(III)-superoxo complex: Crystallographic and spectroscopic characterization and reactivities" *Nature Commun.* **2014**, 5:5440, DOI: 10.1038/ncomms6440.

183. Seungwoo Hong, Bin Wang, Mi Sook Seo, Yong-Min Lee, Hyung Rok Kim, Takashi Ogura, Ricardo Garcia-Serres, Martin Clémancey, Jean-Marc Latour*, and Wonwoo Nam* "Highly Reactive Nonheme Iron(III)-Iodosylarene Adducts That Can Active the Strong C-H Bonds of Alkanes" *Angew. Chem. Int. Ed.* **2014**, *53(25)*, 6388–6392.

184. Suhee Bang, Sora Park, Yong-Min Lee, Seungwoo Hong, Kyung-Bin Cho and Wonwoo Nam* "Demonstration of Heterolytic O-O Bond Cleavage of Nonheme Iron(II)-OOH(R) Complexes for Fenton and Enzyme Reactions" *Angew. Chem. Int. Ed.* **2014**, *53(30)*, 7843–7847.

185. Seungwoo Hong, Florian Felix Pfaff, Eunji Kwon, Yong Wang, Mi-Sook Seo, Eckhard Bill, Kallol Ray* and Wonwoo Nam* "Spectroscopic Capture and Reactivity of a Low-Spin Cobalt(IV)-Oxo Complex Stabilized by Binding Redox-Inactive Metal Ions" *Angew. Chem. Int. Ed.* **2014**, *53(39)*, 10403–10407.

186. Seungwoo Hong, Yong-Min Lee, Kyung-Bin Cho, Mi Sook Seo, Dayoung Song, Jihae Yoon, Ricardo Garcia-Serres, Martin Clémancey, Takashi Ogura, Woonsup Shin,* Jean-Marc Latour* and Wonwoo Nam* "Conversion of High-Spin Iron(III)-Alkyloeroxo to Iron(IV)-Oxo Species via O-O Bond Homolysis in Nonheme Iron Models" *Chem. Sci.* **2014**, *5(1)*, 156–162.

187. Sumin Lee, Youngmin You*, Kei Ohkubo, Shunichi Fukuzumi*, and Wonwoo Nam* "Highly Efficient Cycloreversion of Photochromic Dithienylethene Compounds using Visible Light-Driven Photoredox Catalysis" *Chem. Sci.* **2014**, *5(4)*, 1463–1474.

188. Youngmin You* and Wonwoo Nam* "Detection of Highly Reactive Oxygen Species: Designing Fluorescent Molecular Probes for Singlet Oxygen, Hydroxyl Radical, and Iron−Oxygen Species" *Chem. Sci.* **2014**, *5(11)*, 4123–4135.

189. Kyung-Bin Cho, Hyeona Kang, Jaeyoung Woo, Young Jun Park, Mi Sook Seo, Jaeheung Cho* and Wonwoo Nam* "Mechanistic Insights into the C−H Bond Activation of Hydrocarbons by Chromium(IV) Oxo and Chromium(III) Superoxo Complexes" *Inorg. Chem.* **2014**, *53(1)*, 645–652.

190. Youngmin You*, Somin Cho, and Wonwoo Nam* "Cyclometalated Ir(III) Complexes for Phosphorescent Cell Staining and Biometal Imaging" *Inorg. Chem.* **2014**, *53(4)*, 1804–1815.

191. Atsutoshi Yokoyama, Jung Eun Han, Kenneth D. Karlin*, and Wonwoo Nam* "An isoelectronic NO dioxygenase reaction using a nonheme iron(III)-peroxo complex and nitrosonium ion" *Chem. Commun.* **2014**, *50(14)*, 1742–1744.

192. Eunji Kwon, Kyung-Bin Cho, Seungwoo Hong, and Wonwoo Nam* "Mechanistic Insight into the Hydroxylation of Alkanes by a Nonheme Iron(V)-Oxo Complex" *Chem. Commun.* **2014**, *50(42)*, 5572–5575.

193. Heejung Yoon, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Hydride Transfer from NADH Analogues to a Nonheme Manganese(IV)-Oxo Complex via Rate-Determining Electron Transfer" *Chem. Commun.* **2014**, *50(85)*, 12944–12946.

194. Peter Comba,* Yong-Min Lee, Wonwoo Nam and Arkadius Waleska "Catalytic Oxidation of Alkanes by Iron Bispidine Complexes and Dioxygen: Dioxygen Activation *versus* Autoxidation" *Chem. Commun.* **2014**, *50(4)*, 412–414.

195. Kyung-Bin Cho, Jaeheung Cho, Sason Shaik and Wonwoo Nam* "Investigating Superoxide Transfer through a μ-1,2-O_2 Bridge between Nonheme Ni^{III}−Peroxo and Mn^{II} Species by DFT Methods to Bridge Theoretical and Experimental Views" *J. Phys. Chem. Lett.* **2014**, 5, 2437–2442.

196. Jiyun Park, Yuma Morimoto, Yong-Min Lee, Wonwoo Nam*, and Shunichi Fukuzumi* "Unified View of Oxidative C-H Bond Cleavage and Sulfoxidation by a Non-Heme Iron(IV)-Oxo Complex via Lewis Acid-Promoted Electron Transfer" *Inorg. Chem.*

2014, *53(7)*, 3618–3628.

197. Baharan Karamzadeh, Devendra Singh, Wonwoo Nam,* Devesh Kumar* and Sam P. de Visser* "Properties and reactivities of nonheme iron(IV)-oxo versus iron(V)-oxo: Long-range electron transfer versus hydrogen atom abstraction" *Phys. Chem. Chem. Phys.* **2014**, *16(41)*, 22611–22622.

198. Somin Cho, Youngmin You*, and Wonwoo Nam* "Lysosome-Specific Fluorescence Staining and Singlet Oxygen Generation by Molecular Dyad with Spin-Gated Energy Transfer" *RSC Adv.* **2014**, *4(33)*, 16913–16916.

- 2013 -

199. Dipanwita Das, Yong-Min Lee, Kei Ohkubo, Wonwoo Nam,* Kenneth D. Karlin,* and Shunichi Fukuzumi* "Temperature Independent Catalytic Two-Electron Reduction of Dioxygen by Ferrocenes with a Tris[2-(2-pyridyl)ethyl]amine-Copper(II) Catalyst in the Presence of Perchloric Acid" *J. Am. Chem. Soc.* **2013**, *135*, 2825–2834.

200. Lei V. Liu, Seungwoo Hong, Jaeheung Cho, Wonwoo Nam*, and Edward I. Solomon* "Comparison of High-Spin and Low-Spin Non-heme Fe^{III}–OOH Complexes in O–O Bond Homolysis and H-atom Abstraction Reactivities" *J. Am. Chem. Soc.* **2013**, *135*, 3286–3299.

201. Dipanwita Das, Yong-Min Lee, Kei Ohkubo, Wonwoo Nam,* Kenneth D. Karlin,* and Shunichi Fukuzumi* "Acid-Induced Mechanism Change and Overpotential Decrease in Dioxygen Reduction Catalysis with a Dinuclear Copper Complex" *J. Am. Chem. Soc.* **2013**, *135*, 4018–4026.

202. Hana Woo, Somin Cho, Yejee Han, Weon-Sik Chae, Youngmin You,* and Wonwoo Nam* "Synthetic Control Over Photoinduced Electron Transfer in Phosphorescence Zinc Sensors" *J. Am. Chem. Soc.* **2013**, *135*, 4771–4787.

203. Jiyun Park, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Brønsted Acid–Promoted C-H Bond Activation via Electron Transfer from Toluene Derivatives to a Protonated Non-Heme Iron(IV)-Oxo Complex with No Kinetic Isotope Effect" *J. Am. Chem. Soc.* **2013**, *135*, 5052–5061.

204. Junying Chen, Yong-Min Lee, Katherine M. Davis, Xiujuan Wu, Mi Sook Seo, Kyung-Bin Cho, Heejung Yoon, Young Jun Park, Shunichi Fukuzumi,* Yulia N. Pushkar,* and Wonwoo Nam* "A Mononuclear Nonheme Manganese(IV)-Oxo Complex Binding Redox-Inactive Metal Ions" *J. Am. Chem. Soc.* **2013**, *135*, 6388–6391.

205. Yun Mi Kim, Kyung-Bin Cho, Jaeheung Cho, Binju Wang, Chunsen Li, Sason Shaik,* and Wonwoo Nam* "A Mononuclear Non-Heme High-Spin Iron(III)–Hydroperoxo Complex as an Active Oxidant in Sulfoxidation Reactions" *J. Am. Chem. Soc.* **2013**, *135*, 8838–8841.

206. Heejung Yoon, Yong-Min Lee, Xiujuan Wu, Kyung-Bin Cho, Ritimukta Sarangi, Wonwoo Nam,* and Shunichi Fukuzumi* "Enhanced Electron-Transfer Reactivity of Nonheme Manganese(IV)-Oxo Complexes by Binding Scandium Ions" *J. Am. Chem. Soc.* **2013**, *135*, 9186–9194.

207. Atsutoshi Yokoyama, Kyung-Bin Cho, Kenneth D. Karlin*, and Wonwoo Nam* "Reactions of a Chromium(III)-Superoxo Complex and Nitric Oxide That Lead to the Formation of Chromium(IV)-Oxo and Chromium(III)-Nitrito Complexes" *J. Am. Chem. Soc.* **2013**, *135(40)*, 14900–14903.

208. Sukanta Mandal, Shinya Shikano, Yusuke Yamada, Yong-Min Lee, Wonwoo Nam,* Antoni Llobet,* and Shunichi Fukuzumi* "Protonation Equilibrium and Hydrogen Production by a Dinuclear Co-Hbpp Complex Reduced by Cobaltocene with Trifluoroacetic Acid" *J. Am. Chem. Soc.* **2013**, *135(41)*, 15294–15297.

209. Sam P. de Visser,* Jan-Uwe Rohde,* Yong-Min Lee, Jaeheung Cho, and Wonwoo Nam* "Intrinsic Properties and Reactivities of Mononuclear Nonheme Iron–Oxygen Complexes Bearing the Tetramethylcyclam Ligand" *Coord. Chem. Rev.* **2013**, *257*, 381–393.

210. Jaeheung Cho, Hye Yeon Kang, Lei V. Liu, Ritimukta Sarangi, Edward I. Solomon, and Wonwoo Nam* "Mononuclear Nickel(II)-Superxo and Nickel(III)-Peroxo Complexes Bearing a Common Macrocyclic TMC Ligand" *Chem. Sci.* **2013**, *4*, 1502–1508.

211. Yusuke Nishida, Yuma Morimoto, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Effects of Proton Acceptors on Formation of a Non-Heme Iron(IV)-Oxo Complex via Proton-Coupled Electron Transfer" *Inorg. Chem.* **2013**, *52*, 3094–3101.

212. Byeongno Lee, Kyu Hyung Lee, Byung Wook Lim, Jaeheung Cho, Wonwoo Nam, and Nam Hwi Hur* "Direct Synthesis of Imines via Solid State Reactions of Carbamates with Aldehydes" *Adv. Synth. Catal.* **2013**, *355*, 389–394.

213. Byeongno Lee, Philjun Kang, Kyu Hyung Lee, Jaeheung Cho, Wonwoo Nam, Won Koo Lee* and Nam Hwi Hur* "Solid-state and solvent-free synthesis of azines, pyrazoles, and pyridazinones using solid hydrazine" *Tetrahedron Lett.* **2013**, *54*, 1384-1388.

214. Seungwoo Hong, Hee So, Heejung Yoon, Kyung-Bin Cho, Yong-Min Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Reactivity Comparison of High-Valent Iron(IV)-Oxo Complexes Bearing N-tetramethylated Cyclam Ligands with Different Ring Size" *Dalton Trans.* **2013**, *42*, 7842–7845.

215. Yuma Morimoto, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "An autocatalytic radical chain pathway in formation of an iron(IV)-oxo complex by oxidation of an iron(II) complex with dioxygen and isopropanol" *Chem. Commun.* **2013**, *49*, 2500–2502.

216. Binju Wang, Chunsen Li, Kyung-Bin Cho, Wonwoo Nam*, and Sason Shaik* "The Fe(H_2O_2) Complex as a Highly Efficient Oxidant in Sulfoxidation Reactions: Revival of an Underrated Oxidant in Cytochrome P450" *J. Chem. Theory Comput.* **2013**, *9*, 2519–

2525.

217. Hogyu Lee, Jun Hee Kim, Won Koo Lee,* Jaeheung Cho, Wonwoo Nam, Jaedeok Lee, and Hyun-Joon Ha* "Highly stereoselective directed reactions and an efficient synthesis of azafuranoses from a chiral aziridine" *Org. Biomol. Chem.* **2013**, *11*, 3629–3634.

218. Dayoung Song, Somin Cho, Yejee Han, Youngmin You*, and Wonwoo Nam* "Fluorescence Ratiometric Sensors for Detection of Intracellular Singlet Oxygen" *Org. Lett.* **2013**, *15(14)*, 2519–2525.

219. Dachao Hong, Sukanta Mandal, Yusuke Yamada, Yong-Min Lee, Wonwoo Nam*, Antoni Llobet* and Shunichi Fukuzumi* "Water Oxidation by Homogeneous and Heterogeneous Catalysts Derived from Nonheme Iron Complexes" *Inorg. Chem.* **2013**, *52(16)*, 9522–9531.

220. Yong-Min Lee, Suhee Bang, Yun Mi Kim†, Jaeheung Cho, Seungwoo Hong, Takashi Nomura, Takashi Ogura, Oliver Troeppner, Ivana Ivanović-Burmazović, Ritimukta Sarangi*, Shunichi Fukuzumi* and Wonwoo Nam* "A Mononuclear Nonheme Iron(III)-Peroxo Complex Binding Redox-Inactive Metal Ions" *Chem. Sci.* **2013**, *4(10)*, 3917–3923.

221. Doyeon Kim, Jaeheung Cho, Yong-Min Lee, Ritimukta Sarangi, and Wonwoo Nam* "Synthesis, Characterization, and Reactivity of Cobalt(III)-Oxygen Complexes Bearing a Macrocyclic N-Tetramethylated Cyclam Ligand" *Chem.–Eur. J.* **2013**, *19(42)*, 14112–14118.

222. Hyeona Kang, Jaeheung Cho, Takashi Nomura, Takashi Ogura, and Wonwoo Nam* "Mononuclear manganese-peroxo and bis(μ-oxo)dimanganese complexes bearing a common N-methylated macrocyclic ligand", *Chem.–Eur. J.* **2013**, *19(42)*, 14119–14125.

- 2012 -

223. Jaeheung Cho, Ritimukta Sarangi, and Wonwoo Nam* "Mononuclear Metal-O_2 Complexes Bearing Macrocyclic TMC Ligands" *Acc. Chem. Res.* **2012**, *45*, 1321–1330.

224. Jaeheung Cho, Jaeyoung Woo, and Wonwoo Nam* "A Chromium(III)-Superoxo Complex in Oxygen Atom Transfer Reactions as a Chemical Model of Cysteine Dioxygenase" *J. Am. Chem. Soc.* **2012**, *134*, 11112–11115.

225. Kyung-Bin Cho, Xiujuan Wu, Yong-Min Lee, Yoon Hye Kwon, Sason Shaik, and Wonwoo Nam* "Evidence for an Alternative to the Oxygen Rebound Mechanism in C-H Bond Activation by Nonheme $Fe^{IV}O$ Complexes" *J. Am. Chem. Soc.* **2012**, *134*, 20222–20225.

226. Jiyun Park, Yuma Morimoto, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Proton-Promoted Oxygen Atom Transfer vs Proton-Coupled Electron Transfer of a Non-Heme Iron(IV)-Oxo Complex." *J. Am. Chem. Soc.* **2012**, *134*, 3903–3911.

227. Shunichi Fukuzumi,* Laleh Tahsini, Yong-Min Lee, Kei Ohkubo, Wonwoo Nam,* and

Kenneth D. Karlin* "Factors that Control Catalytic Two- *versus* Four-Electron Reduction of Dioxygen by Copper Complexes" *J. Am. Chem. Soc.* **2012**, *134*, 7025–7035.

228. Samuel A. Wilson, Junying Chen, Seungwoo Hong, Yong-Min Lee, Martin Clémancey, Ricardo Garcia-Serres, Takashi Nomura, Takashi Ogura, Jean-Marc Latour,* Britt Hedman,* Keith O. Hodgson,* Wonwoo Nam,* and Edward I. Solomon* "$[Fe^{IV}=O(TBC)(CH_3CN)]^{2+}$: Comparative Reactivity of Iron(IV)-Oxo Species with Constrained Equatorial Cyclam Ligation" *J. Am. Chem. Soc.* **2012**, *134*, 11791–11806.

229. Shunichi Fukuzumi,* Sukanta Mandal, Kentaro Mase, Kei Ohkubo, Hyejin Park, Jordi Benet-Buchholz, Wonwoo Nam,* and Antoni Llobet* "Catalytic Four-Electron Reduction of Dioxygen via Rate-Determining Proton-Coupled Electron Transfer to a Dinuclear Cobalt-μ-1,2-Peroxo Complex" *J. Am. Chem. Soc.* **2012**, *134*, 9906–9909.

230. Atsutoshi Yokoyama, Jung Eun Han, Jaeheung Cho, Minoru Kubo, Takashi Ogura, Maxime A. Siegler, Kenneth D. Karlin,* and Wonwoo Nam* "Chromium(IV)–Peroxo Complex Formation and Its Nitric Oxide Dioxygenase Reactivity" *J. Am. Chem. Soc.* **2012**, *134*, 15269–15272.

231. Yejee Han, Youngmin You,* Yong-Min Lee, and Wonwoo Nam* "Double Action: Toward Phosphorescence Ratiometric Sensing of Chromium Ion" *Adv. Mater.* **2012**, *24*, 2748–2754.

232. Youngmin You* and Wonwoo Nam* "Photofunctional Triplet Excited States of Cyclometalated Ir(III) Complexes" *Chem. Soc. Rev.* **2012**, *41*, 7061–7084.

233. Hui Chen,* Kyung-Bin Cho, Wenzhen Lai, Wonwoo Nam,* and Sason Shaik* "Dioxygen Activation by a Non-Heme Iron(II) Complex: Theoretical Study Toward Understanding Ferric-Superoxo Complexes" *J. Chem. Theory Comput.* **2012**, *3*, 915–926.

234. Reza Latifi, Joan S. Valentine,* Wonwoo Nam,* and Sam P. de Visser* "Predictive Studies of H-Atom Abstraction Reactions by an Iron(IV)–Oxo Corrole Cation Radical Oxidant" *Chem. Commun*. **2012**, *48*, 3491–3493.

235. Kyung-Bin Cho, Hui Chen, Deepa Janardanan, Sam P. de Visser, Sason Shaik,* and Wonwoo Nam* "Nonheme Iron-Oxo and -Superoxo Reactivities: O_2 Binding and Spin Inversion Probability Matter" *Chem. Commun*. **2012**, *48*, 2189–2191.

236. Laleh Tahsini, Hiroaki Kotani, Yong-Min Lee, Jaeheung Cho, Wonwoo Nam,* Kenneth D. Karlin,* and Shunichi Fukuzumi* "Electron-Transfer Reduction of Dinuclear Copper Peroxo and Bis-μ-Oxo Complexes Leading to the Catalytic Four-Electron Reduction of Dioxygen to Water" *Chem.–Eur. J.* **2012**, *18*, 1084–1093.

237. Reza Latifi, Laleh Tahsini, Wonwoo Nam,* and Sam P. de Visser* "Regioselectivity of Aliphatic *versus* Aromatic Hydroxylation by a Nonheme Iron(II)-Superoxo Complex"

Phys. Chem. Chem. Phys. **2012**, *14*, 2518–2524.

238. Dayoung Song, Jung Mi Lim, Somin Cho, Su-Jin Park, Jaeheung Cho, Dongmin Kang, Sue Goo Rhee, Youngmin You* and Wonwoo Nam* "A Fluorescence Turn-On H_2O_2 Probe Exhibits Lysosome-Localized Fluorescence Signals" *Chem. Commun*. **2012**, *48*, 5449–5451.

239. Dachao Hong, Jieun Jung, Jiyun Park, Yusuke Yamada, Tomoyoshi Suenobu, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Photocatalytic Water Oxidation by Nanoparticles Derived from Water-Soluble Mononuclear Cobalt Complexes with Organic Ligands" *Energy Environ. Sci.* **2012**, *5*, 7606–7616.

240. Sumin Lee, Youngmin You,* Kei Ohkubo, Shunichi Fukuzumi,* and Wonwoo Nam* "Mechanism and Fluorescence Application of Electrochromism in Photochromic Dithienylcyclopentene" *Org. Lett.* **2012**, *14*, 2238–2241.

241. Kyung-Bin Cho, Eun Jeong Kim, Mi Sook Seo, Sason Shaik,* and Wonwoo Nam* "Correlating DFT Calculated Energy Barriers to Experiments in Nonheme Octahedral $Fe^{IV}O$ Species" *Chem.–Eur. J.* **2012**, *18*, 10444–10453.

242. Ji Eon Kwon, Sumin Lee, Youngmin You,* Kyung-Hwa Baek, Kei Ohkubo, Jaeheung Cho, Shunichi Fukuzumi,* Injae Shin,* Soo Young Park,* and Wonwoo Nam* "Fluorescent Zinc Sensor with Minimized Proton-Induced Interferences: Photophysical Mechanism for Fluorescence Turn-On Response and Detection of Endogenous Free Zinc Ions" *Inorg. Chem.* **2012**, *51*, 8760–8774.

243. Yuma Morimoto, Jiyun Park, Tomoyoshi Suenobu, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Mechanistic Borderline of One-Step Hydrogen Atom Transfer vs Stepwise Sc^{3+}–Coupled Electron Transfer and Proton Transfer from Benzyl Alcohol Derivatives to a Non-Heme Oxoiron(IV) Complex" *Inorg. Chem.* **2012**, *51*, 10025–10036.

244. Hana Woo, Youngmin You,* Taehee Kim, Gil-Ja Jhon, and Wonwoo Nam* "Fluorescence Ratiometric Zinc Sensors Based on Controlled Energy Transfer" *J. Mater. Chem.* **2012**, *22*, 17100–17112.

245. Matthew L. Rigsby, Sukanta Mandal, Wonwoo Nam, Lara C. Spencer, Antoni Llobet,* and Shannon S. Stahl* "Cobalt analogs of Ru-based water oxidation catalysts: Overcoming thermodynamic instability and kinetic lability to achieve electrocatalytic O_2 *evolution*" *Chem. Sci.* **2012**, *3*, 3058–3062.

246. Kyung-Bin Cho, Sason Shaik,* and Wonwoo Nam* "Theoretical Investigations into C-H Bond Activation Reaction by Nonheme $Mn^{IV}O$ Complexes: Multi-State Reactivity with No Oxygen Rebound." *J. Phys. Chem. Lett*. **2012**, *3*, 2851–2856.

247. Heejung Yoon, Yuma Morimoto, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Electron-Transfer Properties of a Nonheme Manganese(IV)-Oxo Complex

Acting as a Stronger One-Electron Oxidant than the Iron(IV)-Oxo Analogue" *Chem. Commun.* **2012**, *48*, 11187–11189.

248. Sumin Lee, Youngmin You,* Kei Ohkubo, Shunichi Fukuzumi,* and Wonwoo Nam* "Photoelectrocatalysis to Improve Cycloreversion Quantum Yields of Photochromic Dithienylethene Compounds" *Angew. Chem., Int. Ed.* **2012**, *51*, 13154–13158.

- 2011 -

249. Jaeheung Cho, Sujin Jeon, Samuel A. Wilson, Lei V. Liu, Eun A. Kang, Joseph J. Braymer, Mi Hee Lim, Britt Hedman, Keith O. Hodgson, Joan Selverstone Valentine,* Edward I. Solomon,* and Wonwoo Nam* "Structure and Reactivity of a Mononuclear Non-Haem Iron(III)–Peroxo Complex" *Nature* **2011**, *478*, 502–505.

250. Shunichi Fukuzumi,* Takashi Kishi, Hiroaki Kotani, Yong-Min Lee, and Wonwoo Nam* "Highly Efficient Photocatalytic Oxygenation Reactions Using Water as an Oxygen Source" *Nature Chemistry* **2011**, *3*, 38–41.

251. Seungwoo Hong, Yong-Min Lee, Kyung-Bin Cho, Karuppasamy Sundaravel, Jaeheung Cho, Myoung Jin Kim, Woonsup Shin,* and Wonwoo Nam* "Ligand Topology Effect on the Reactivity of a Mononuclear Nonheme Iron(IV)-Oxo Complex in Oxygenation Reactions" *J. Am. Chem. Soc.* **2011**, *133*, 11876–11879.

252. Yuma Morimoto, Hiroaki Kotani, Jiyun Park, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Metal Ion-Coupled Electron Transfer of a Nonheme Oxoiron(IV) Complex: Remarkable Enhancement of Electron-Transfer Rates by Sc^{3+}" *J. Am. Chem. Soc.* **2011**, *133*, 403–405.

253. Xiujuan Wu, Mi Sook Seo, Katherine M. Davis, Yong-Min Lee, Junying Chen, Kyung-Bin Cho, Yulia N. Pushkar,* and Wonwoo Nam* "A Highly Reactive Mononuclear Non-Heme Manganese(IV)-Oxo Complex That Can Activate the Strong C-H Bonds of Alkanes" *J. Am. Chem. Soc*. **2011**, *133*, 20088–20091.

254. Youngmin You,* Yejee Han, Yong-Min Lee, Soo Young Park, Wonwoo Nam,* and Stephen J. Lippard* "Phosphorescent Sensor for Robust Quantification of Copper(II) Ion" *J. Am. Chem. Soc.* **2011**, *133*, 11488–11491.

255. Jiyun Park, Yuma Morimoto, Yong-Min Lee, Wonwoo Nam,* and Shunichi Fukuzumi* "Metal Ion Effect on the Switch of Mechanism from Direct Oxygen Transfer to Metal Ion-Coupled Electron Transfer in the Sulfoxidation of Thioanisoles by a Non-Heme Iron(IV)-Oxo Complex" *J. Am. Chem. Soc.* **2011**, *133*, 5236–5239.

256. Youngmin You,* Sumin Lee, Taehee Kim, Kei Ohkubo, Weon-Sik Chae, Shunichi Fukuzumi, Gil-Ja Jhon, Wonwoo Nam,* and Stephen J. Lippard* "Phosphorescent Sensor for Biological Mobile Zinc" *J. Am. Chem. Soc.* **2011**, *133*, 18328–18342.

257. Hiroaki Kotani, Tomoyoshi Suenobu, Yong-Min Lee, Wonwoo Nam,* and Shunichi

Fukuzumi* "Photocatalytic Generation of a Non-Heme Oxoiron(IV) Complex with Water as an Oxygen Source" *J. Am. Chem. Soc.* **2011**, *133*, 3249–3251.

258. Ritimukta Sarangi,* Jaeheung Cho, Wonwoo Nam, and Edward I. Solomon* "XAS and DFT Investigation of Mononuclear Cobalt(III) Peroxo Complexes: Electronic Control of the Geometric Structure in CoO_2 *versus* NiO_2 Systems" *Inorg. Chem.* **2011**, *50*, 614–620.

259. Jiyun Park, Yuma Morimoto, Yong-Min Lee, Youngmin You, Wonwoo Nam,* and Shunichi Fukuzumi* "Scandium Ion-Enhanced Oxidative Dimerization and *N*-Demethylation of *N,N*-Dimethylanilines by a Non-Heme Iron(IV)-Oxo Complex" *Inorg. Chem*. **2011**, *50*, 11612–11622.

260. Mi Sook Seo, Nam Hee Kim, Kyung-Bin Cho, Jeong Eun So, Seon Kyung Park, Martin Clémancey, Ricardo Garcia-Serres, Jean-Marc Latour,* Sason Shaik,* and Wonwoo Nam* "A Mononuclear Nonheme Iron(IV)-Oxo Complex Which is More Reactive than Cytochrome P450 Model Compound I" *Chem. Sci.* **2011**, *2*, 1039–1045.

261. Jaeheung Cho, Jaeyoung Woo, Jung Eun Han, Minoru Kubo, Takashi Ogura, and Wonwoo Nam* "Chromium(V)-Oxo and Chromium(III)-Superoxo Complexes Bearing a Macrocyclic TMC Ligand in Hydrogen Atom Abstraction Reactions" *Chem. Sci.* **2011**, *2*, 2057–2062.

262. Sam P. de Visser,* Reza Latifi, Laleh Tahsini, and Wonwoo Nam* "The Axial Ligand Effect on Aliphatic and Aromatic Hydroxylation by Non-Heme Iron(IV)–Oxo Biomimetic Complexes" *Chem.–Asian J.* **2011**, *6*, 493–504.

263. Yu Jin Choi, Kyung-Bin Cho, Minoru Kubo, Takashi Ogura, Kenneth D. Karlin, Jaeheung Cho,* and Wonwoo Nam* "Spectroscopic and Computational Characterization of Cu^{II}–OOR (R = H or Cumyl) Complexes Bearing a Me_6-tren Ligand" *Dalton Trans.* **2011**, *40*, 2234–2241.

264. Reza Latifi, Laleh Tahsini, Devesh Kumar,* G. Narahari Sastry, Wonwoo Nam,* and Sam P. de Visser* "Oxidative Properties of a Nonheme Ni(II)(O_2) Complex: Reactivity Patterns for C–H Activation, Aromatic Hydroxylation and Heteroatom Oxidation" *Chem. Commun*. **2011**, *47*, 10674–10676.

265. Byeongno Lee, Seung Hee Kang, Donghyeon Kang, Kyu Hyung Lee, Jaeheung Cho, Wonwoo Nam, Oc Hee Han, and Nam Hwi Hur* "Isolation and Structural Characterization of the Elusive 1 : 1 Adduct of Hydrazine and Carbon Dioxide" *Chem. Commun.* **2011**, *47*, 11219–11221.

266. Byeongno Lee, Kyu Hyung Lee, Jaeheung Cho, Wonwoo Nam, and Nam Hwi Hur* "Synthesis of Azines in Solid State: Reactivity of Solid Hydrazine with Aldehydes and Ketones" *Org. Lett.* **2011**, *13*, 6386–6389.

267. Reza Latifi, Laleh Tahsini, Baharan Karamzadeh, Nasser Safari, Wonwoo Nam,* and

Sam P. de Visser* "Manganese Substituted Compound I of Cytochrome P450 Biomimetics: A Comparative Reactivity Study of Mn^{V}–Oxo *versus* Mn^{IV}-Oxo Species" *Arch. Biochem. Biophys.* **2011**, *507*, 4–13.

- 2010 -

268. Shunichi Fukuzumi,* Yuma Morimoto, Hiroaki Kotani, Panče Naumov, Yong-Min Lee, and Wonwoo Nam* "Crystal Structure of a Metal Ion-Bound Oxoiron(IV) Complex and Implications for Biological Electron Transfer" *Nature Chemistry* **2010**, *2*, 756–759.

269. Jaeheung Cho, Jaeyoung Woo, and Wonwoo Nam* "An "End-On" Chromium(III)-Superoxo Complex: Crystallographic and Spectroscopic Characterization and Reactivity in C–H Bond Activation of Hydrocarbons" *J. Am. Chem. Soc.* **2010**, *132*, 5958–5959.

270. Sun Hee Kim, Hyejin Park, Mi Sook Seo, Minoru Kubo, Takashi Ogura, Jan Klajn, Daniel T. Gryko, Joan Selverstone Valentine, and Wonwoo Nam* "Reversible O-O Bond Cleavage and Formation between Mn(IV)-Peroxo and Mn(V)-Oxo Corroles" *J. Am. Chem. Soc.* **2010**, *132*, 14030–14032.

271. Yong-Min Lee, Seungwoo Hong, Yuma Morimoto, Woonsup Shin,* Shunichi Fukuzumi,* and Wonwoo Nam* "Dioxygen Activation by a Non-Heme Iron(II) Complex: Formation of an Iron(IV)-Oxo Intermediate *via* C-H Activation by a Putative Iron(III)-Superoxo Species" *J. Am. Chem. Soc.* **2010**, *132*, 10668-10670.

272. Jaeheung Cho, Ritimukta Sarangi, Hye Yeon Kang, Jung Yoon Lee, Minoru Kubo, Takashi Ogura, Edward I. Solomon, and Wonwoo Nam* "Synthesis, Structural, and Spectroscopic Characterization and Reactivities of Mononuclear Cobalt(III)-Peroxo Complexes" *J. Am. Chem. Soc.* **2010**, *132*, 16977–16986.

273. Aidan R. McDonald, Michael R. Bukowski, Erik R. Farquhar, Timothy A. Jackson, Kevin D. Koehntop, Mi Sook Seo, Raymond F. De Hont, Audria Stubna, Jason A. Halfen, Eckard Münck,* Wonwoo Nam,* and Lawrence Que, Jr.* "Sulfur *versus* Iron Oxidation in an Iron-Thiolate Model Complex" *J. Am. Chem. Soc.* **2010**, *132*, 17118–17129.

274. Sarvesh C. Sawant, Xiujuan Wu, Jaeheung Cho, Kyung-Bin Cho, Sun Hee Kim, Mi Sook Seo, Yong-Min Lee, Minoru Kubo, Takashi Ogura, Sason Shaik, and Wonwoo Nam* "Water as an Oxygen Source: Synthesis, Characterization, and Reactivity Studies of a Mononuclear Nonheme Manganese(IV)-Oxo Complex" *Angew. Chem., Int. Ed.* **2010**, *49*, 8190–8194.

275. Sam P. de Visser, Joan Selverstone Valentine, and Wonwoo Nam* "A Biomimetic Ferric Hydroperoxo Porphyrin Intermediate" *Angew. Chem., Int. Ed.* **2010**, *49*, 2099–2101.

276. Shunichi Fukuzumi,* Hiroaki Kotani, Tomoyoshi Suenobu, Seungwoo Hong, Yong-

Min Lee, and Wonwoo Nam* "Contrasting Effects of Axial Ligands on the Electron-Transfer vs Proton-Coupled Electron-Transfer Reactions of Nonheme Oxoiron(IV) Complexes" *Chem.–Eur. J.* **2010**, *16*, 354–361.

277. Jaeheung Cho,* Yong-Min Lee, Sung Yeon Kim, and Wonwoo Nam* "Synthesis and Crystal Structure of Nickel(II) Complexes with Bis(5-methyl-2-thiophenemethyl)(2-pyridylmethyl)amine" *Polyhedron* **2010**, *29*, 446–450.

278. Youngmin You, Elisa Tomat, Kevin Hwang, Tatjana Atanasijevic, Wonwoo Nam, Alan P. Jasanoff, and Stephen J. Lippard* "Manganese Displacement from Zinpyr-1 Allows Zinc Detection by Fluorescence Microscopy and Magnetic Resonance Imaging" *Chem. Commun.* **2010**, *46*, 4139–4141.

279. Kyung-Bin Cho, Sason Shaik,* and Wonwoo Nam* "Theoretical Predictions of a Highly Reactive Non-Heme Fe(IV)=O Complex with a High-Spin Ground State" *Chem. Commun.* **2010**, *46*, 4511–4513.

280. Yejee Han, Yong-Min Lee, Mariappan Mariappan, Shunichi Fukuzumi,* and Wonwoo Nam* "Manganese(V)-Oxo Corroles in Hydride-Transfer Reactions" *Chem. Commun.* **2010**, *46*, 8160–8162.

- 2009 -

281. Jaeheung Cho, Ritimukta Sarangi, Jamespandi Annaraj, Sung Yeon Kim, Minoru Kubo, Takashi Ogura, Edward I. Solomon,* and Wonwoo Nam* "Geometric and Electronic Structure and Reactivity of a Mononuclear 'Side-On' Nickel(III)-Peroxo Complex" *Nature Chemistry* **2009**, *1*, 568–572.

282. Seungwoo Hong, Yong-Min Lee, Woonsup Shin,* Shunichi Fukuzumi,* and Wonwoo Nam* "Dioxygen Activation by Mononuclear Nonheme Iron(II) Complexes Generates Iron-Oxygen Intermediates in the Presence of an NADH Analogue and Proton" *J. Am. Chem. Soc.* **2009**, *131*, 13910–13911.

283. Shunichi Fukuzumi,* Naofumi Fujioka, Hiroaki Kotani, Kei Ohkubo, Yong-Min Lee, and Wonwoo Nam* "Mechanistic Insights into Hydride-Transfer and Electron-Transfer Reactions by a Manganese(IV)-Oxo Porphyrin Complex" *J. Am. Chem. Soc.* **2009**, *131,* 17127–17134.

284. Jihae Yoon, Samuel A. Wilson, Yu Kyeong Jang, Mi Sook Seo, Kasi Nehru, Britt Hedman, Keith O. Hodgson, Eckhard Bill, Edward I. Solomon, and Wonwoo Nam* "Reactive Intermediates in Oxygenation Reactions with Mononuclear Nonheme Iron Catalysts" *Angew. Chem., Int. Ed.* **2009**, *48*, 1257–1260.

285. Yong-Min Lee, Sunder N. Dhuri, Sarvesh C. Sawant, Jaeheung Cho, Minoru Kubo, Takashi Ogura, Shunichi Fukuzumi,* and Wonwoo Nam* "Water as an Oxygen Source in the Generation of Mononuclear Nonheme Iron(IV)-Oxo Complexes" *Angew. Chem.,*

Int. Ed. **2009**, *48*, 1803–1806.

286. Jamespandi Annaraj, Jaeheung Cho, Yong-Min Lee, Sung Yeon Kim, Reza Latifi, Sam P. de Visser,* and Wonwoo Nam* "Structural Characterization and Remarkable Axial Ligand Effect on the Nucleophilic Reactivity of a Nonheme Manganese(III)-Peroxo Complex" *Angew. Chem., Int. Ed.* **2009**, *48*, 4150–4153.

287. Laleh Tahsini, Mojitaba Bagherzadeh, Wonwoo Nam,* and Sam P. de Visser* "Fundamental Differences of Substrate Hydroxylation by High-Valent Iron(IV)-Oxo Models of Cytochrome P450" *Inorg. Chem.* **2009**, *48*, 6661–6669.

288. Sam P. de Visser,* Laleh Tahsini, and Wonwoo Nam* "How Does the Axial Ligand of Cytochrome P450 Biomimetic Influence the Regioselectivity of Aliphatic *versus* Aromatic Hydroxylation?" *Chem.–Eur. J.* **2009**, *15*, 5577–5587.

289. Jung Yoon Lee, Yong-Min Lee, Hiroaki Kotani, Wonwoo Nam,* and Shunichi Fukuzumi* "High-Valent Manganese(V)-Oxo Porphyrin Complexes in Hydride Transfer Reactions" *Chem. Commun.* **2009**, 704–706.

290. Soo Jeong Kim, Reza Latifi, Hye Yeon Kang, Wonwoo Nam,* and Sam P. de Visser* "Activation of Hydrocarbon C-H Bonds by Iodosylbenzene: How Does It Compare with Iron(IV)-Oxo Oxidants?" *Chem. Commun.* **2009**, 1562–1564.

291. Jamespandi Annaraj, Soohee Kim, Mi Sook Seo, Yong-Min Lee, Youngmee Kim, Sung-Jin Kim, Young S. Choi, Ho G. Jang, and Wonwoo Nam* "An Iron(II) Complex with a N3S2 Thioether Ligand in the Generation of an Iron(IV)-Oxo Complex and its Reactivity in Olefin Epoxidation" *Inorg. Chim. Acta* **2009**, *362*, 1031–1034.

292. Jeehee Yoon, Mi Sook Seo, Youngmee Kim, Sung-Jin Kim, Sungho Yoon,* Ho G. Jang, and Wonwoo Nam* "Synthesis and Reactivity of a Mononuclear Manganese(II) Complex Having Pseudo-Seven Coordination Environment" *Bull. Kor. Chem. Soc.* **2009**, *30*, 679–682.

293. Devesh Kumar,* Laleh Tahsini, Sam P. de Visser,* Hye Yeon Kang, Soo Jeong Kim, and Wonwoo Nam* "Effect of Porphyrin Ligands on the Regioselective Dehydrogenation *versus* Epoxidation of Olefins by Oxoiron(IV) Mimics of Cytochrome P450" *J. Phys. Chem. A* **2009**, *113*, 11713–11722.

294. Yaeun Kang, Hui Chen, Yu Jin Jeong, Wenzhen Lai, Eun Hae Bae, Sason Shaik,* and Wonwoo Nam* "Enhanced Reactivities of Iron(IV)-Oxo Porphyrin π-Cation Radicals in Oxygenation Reactions by Electron-Donating Axial Ligands" *Chem.–Eur. J.* **2009**, *15*, 10039–10046.

295. Chellaiah Arunkumar, Yong-Min Lee, Jung Yoon Lee, Shunichi Fukuzumi,* and Wonwoo Nam* "Hydrogen-Atom Abstraction Reactions by Manganese(V)- and Manganese(IV)-Oxo Porphyrin Complexes in Aqueous Solution" *Chem.–Eur. J.* **2009**, *15,* 11482–11489.

- 2008 -

296. Yong-Min Lee, Hiroaki Kotani, Tomoyoshi Suenobu, Wonwoo Nam,* and Shunichi Fukuzumi* "Fundamental Electron-Transfer Properties of Non-Heme Oxoiron(IV) Complexes" *J. Am. Chem. Soc.* **2008**, *130*, 434–435.

297. Sunder N. Dhuri, Mi Sook Seo, Yong-Min Lee, Hajime Hirao, Yong Wang, Wonwoo Nam,* and Sason Shaik* "Experiment and Theory Reveal the Fundamental Difference between Two-State and Single-State Reactivity Patterns in Nonheme Fe(IV)=O versus Ru(IV)=O Oxidants" *Angew. Chem., Int. Ed.* **2008**, *47*, 3356–3359.

298. Timothy A. Jackson, Jan-Uwe Rohde, Mi Sook Seo, Chivukula V. Sastri, Raymond DeHont, Audria Stubna, Takehiro Ohta, Teizo Kitagawa, Eckard Münck,* Wonwoo Nam,* and Lawrence Que, Jr.* "Axial Ligand Effects on the Geometric and Electronic Structures of Nonheme Oxoiron(IV) Complexes" *J. Am. Chem. Soc.* **2008**, *130*, 12394–12407.

299. Yu Jin Jeong, Yaeun Kang, Ah-Rim Han, Yong-Min Lee, Hiroaki Kotani, Shunichi Fukuzumi,* and Wonwoo Nam* "Hydrogen Atom Abstraction and Hydride Transfer Reactions by Iron(IV)-Oxo Porphyrins" *Angew. Chem., Int. Ed.* **2008**, *47*, 7321–7324.

300. Shunichi Fukuzumi,* Hiroaki Kotani, Yong-Min Lee, and Wonwoo Nam* "Sequential Electron-Transfer and Proton-Transfer Pathways in Hydride-Transfer Reactions from NADH Analogues to Non-Heme Oxoiron(IV) Complexes and *p*-Chloranil. Detection of Radical Cations of NADH Analogues in Acid-Promoted Hydride-Transfer Reaction" *J. Am. Chem. Soc.* **2008**, *130*, 15134–15142.

301. Ah-Rim Han, Yu Jin Jeong, Yaeun Kang, Jung Yoon Lee, Mi Sook Seo, and Wonwoo Nam* "Direct Evidence for an Iron(IV)-Oxo Porphyrin □-Cation Radical as an Active Oxidant in Catalytic Oxygenation Reactions" *Chem. Commun.* **2008**, 1076–1078.

302. Sam P. de Visser,* Yong-Min Lee, and Wonwoo Nam* "Theoretical Investigation on the Mechanism of Oxygen Atom Transfer between Two Non-Heme Iron Centres" *Eur. J. Inorg. Chem.* **2008**, 1027–1030.

303. Kasi Nehru, Yukyeong Jang, Sunok Oh, Frédéric Dallemer, Wonwoo Nam,* and Jinheung Kim* "Oxidation of Hydroquinones by a Nonheme Iron(IV)-Oxo Species" *Inorg. Chim. Acta* **2008**, *361*, 2563–2567.

304. Yoon Jung Jang, Byung-Hyang Kwon, Byung-Hoon Choi, Chang Hwan Bae, Mi Sook Seo, Wonwoo Nam, and Seog K. Kim* "Intercalation of Bulky Δ,Δ- and Λ,Λ-Bis-Ru(II) Complex between DNA Base Pairs" *J. Inorg. Biochem.* **2008**, *102*, 1885–1891.

305. Hajime Hirao, Lawrence Que, Jr., Wonwoo Nam, and Sason Shaik* "A Two-State Reactivity Rationale for Counterintuitive Axial Ligand Effects on the C-H Activation Reactivity of Nonheme Fe(IV)=O Oxidants" *Chem.–Eur. J.* **2008**, *14*, 1740–1756.

306. Youngrae Jo, Jamespandi Annaraj, Mi Sook Seo, Yong-Min Lee, Sung Yeon Kim, Jaeheung Cho,* and Wonwoo Nam* "Reactivity of a Cobalt(III)-Peroxo Complex in Oxidative Nucleophilic Reactions" *J. Inorg. Biochem.* **2008**, *102*, 2155–2159.

307. Sam P. de Visser* and Wonwoo Nam* "The Effect and Influence of *cis*-Ligands on the Electronic and Oxidizing Properties of Nonheme Oxoiron Biomimetics. A Density Functional Study" *J. Phys. Chem. A* **2008**, *112*, 12887–12895.

308. Takashi Kamachi, Yong-Min Lee, Tomonori Nishimi, Jaeheung Cho, Kazunari Yoshizawa,* and Wonwoo Nam* "Combined Experimental and Theoretical Approach to Understand the Reactivity of Mononuclear Cu(II)-Hydroperoxo Complex in Oxygenation Reactions" *J. Phys. Chem. A* **2008**, *112*, 13102–13108.

- 2007 -

309. Wonwoo Nam* "High-Valent Iron(IV)-Oxo Complexes of Heme and Non-Heme Ligands in Oxygenation Reactions" *Acc. Chem. Res.* **2007**, *40*, 522–531.

310. Wonwoo Nam* "Guest Editorial: Dioxygen Activation by Metalloenzymes and Models" *Acc. Chem. Res.* **2007**, *40*, 465.

311. Chivukula V. Sastri, Jimin Lee, Kyungeun Oh, Yoon Jin Lee, Junghyun Lee, Timothy A. Jackson, Kallol Ray, Hajime Hirao, Woonsup Shin, Jason A. Halfen, Jinheung Kim, Lawrence Que, Jr.,* Sason Shaik,* and Wonwoo Nam* "Axial Ligand Tuning of a Nonheme Iron(IV)-Oxo Unit for Hydrogen Atom Abstraction" *Proc. Natl. Acad. Sci. U.S.A.* **2007**, *104*, 19181–19186.

312. Woon Ju Song, Mi Sook Seo, Serena DeBeer George, Takehiro Ohta, Rita Song, Min-Jung Kang, Takehiko Tosha, Teizo Kitagawa, Edward I. Solomon, and Wonwoo Nam* "Synthesis, Characterization, and Reactivities of Manganese(V)-Oxo Porphyrin Complexes" *J. Am. Chem. Soc.* **2007**, *129*, 1268–1277.

313. Mi Sook Seo, Ja Young Kim, Jamespandi Annaraj, Youngmee Kim, Yong-Min Lee, Sung-Jin Kim, Jinheung Kim,* and Wonwoo Nam* "$[Mn(tmc)(O_2)]^+$: A Side-On Peroxido Manganese(III) Complex Bearing a Non-Heme Ligand," *Angew. Chem., Int. Ed.* **2007**, *46*, 377–380.

314. Mi Sook Seo, Takashi Kamachi, Tomohisa Kouno, Koji Murata, Mi Joo Park, Kazunari Yoshizawa,* and Wonwoo Nam* "Experimental and Theoretical Evidence for Nonheme Iron(III) Alkylperoxo Species as Sluggish Oxidants in Oxygenation Reactions" *Angew. Chem., Int. Ed.* **2007**, *46*, 2291–2294.

315. Hyunjung Park, Kwan Mook Kim,* Areum Lee, Sihyun Ham, Wonwoo Nam, and Jik Chin* "Bioinspired Chemical Inversion of L-Amino Acids to D-Amino Acids" *J. Am. Chem. Soc.* **2007**, *129*, 1518–1519.

316. Kasi Nehru, Yu Kyeong Jang, Mi Sook Seo, Wonwoo Nam,* and Jinheung Kim*

"Oxidation of *N*-Methylanilines by a Nonheme Iron(IV)-Oxo Complex" *Bull. Kor. Chem. Soc.* **2007**, *28*, 843–846.

317. Raju Nandhakumar, Yong-En Guo, Hyunjung Park, Lijun Tang, Wonwoo Nam, and Kwan Mook Kim* "A Chiral Ketone for Enantioselective Recognition of 1,2-Amino Alcohols" *Tetrahedron Lett*. **2007**, *48*, 6582–6585.

318. Sam P. de Visser,* Kyungeun Oh, Ah-Rim Han, and Wonwoo Nam* "Combined Experimental and Theoretical Study on Aromatic Hydroxylation by Mononuclear Nonheme Iron(IV)-Oxo Complexes" *Inorg. Chem.* **2007**, *46*, 4632–4641.

319. Kasi Nehru, Mi Sook Seo, Jinheung Kim,* and Wonwoo Nam* "Oxidative *N*-Dealkylation Reactions by Oxoiron(IV) Complexes of Nonheme and Heme Ligands: Evidence for a Single Electron Transfer Mechanism" *Inorg. Chem.* **2007**, *46*, 293–298.

320. Min-Jung Kang, Woon Ju Song, Ah-Rim Han, Young S. Choi, Ho G. Jang,* and Wonwoo Nam* "Mechanistic Insight into the Aromatic Hydroxylation by High-Valent Iron(IV)-Oxo Porphyrin π-Cation Radical Complexes" *J. Org. Chem.* **2007**, *72*, 6301–6304.

321. Kasi Nehru, Soo Jeong Kim, In Young Kim, Mi Sook Seo, Youngmee Kim, Sung-Jin Kim, Jinheung Kim, and Wonwoo Nam* "A Highly Efficient Non-Heme Manganese Complex in Oxygenation Reactions" *Chem. Commun.* **2007**, 4623–4625.

322. Kyungeun Oh, Hanyoung Lee, Ki-Hyun Kim, Youn Sang Kim, Wonwoo Nam, and Kwan Mook Kim* "Colloids Produced by Simple Self-Assembly of Inorganic Tennis Balls and Nonrigid Polypyridyl Ligands" *Bull. Kor. Chem. Soc.* **2007**, *28*, 1293–1294.

- 2006 -

323. Matthew T. Kieber-Emmons, Jamespandi Annaraj, Mi Sook Seo, Katherine M. Van Heuvelen, Takehiko Tosha, Teizo Kitagawa, Thomas C. Brunold, Wonwoo Nam,* and Charles G. Riordan* "Identification of an "End-On" Nickel-Superoxo Adduct, $[Ni(tmc)(O_2)]^{+}$" *J. Am. Chem. Soc.* **2006**, *128*, 14230–14231.

324. Chivukula V. Sastri, Kyungeun Oh, Yoon Jin Lee, Mi Sook Seo, Woonsup Shin, and Wonwoo Nam* "Oxygen-Atom Transfer between Mononuclear Nonheme Iron(IV)-Oxo and Iron(II) Complexes" *Angew. Chem., Int. Ed.* **2006**, *45*, 3992–3995.

325. Mi Joo Park, Jimin Lee, Yumi Suh, Jinheung Kim, and Wonwoo Nam* "Reactivities of Mononuclear Non-Heme Iron Intermediates Including Evidence that Iron(III)–Hydroperoxo Species Is a Sluggish Oxidant" *J. Am. Chem. Soc.* **2006**, *128*, 2630–2634.

326. Jan-Uwe Rohde, Audria Stubna, Emile L. Bominaar, Eckard Münck,* Wonwoo Nam,* and Lawrence Que, Jr.* "Nonheme Oxoiron(IV) Complexes of Tris(2-pyridylmethyl)amine with *cis*-Monoanionic Ligands" *Inorg. Chem.* **2006**, *45*, 6435–6445.

327. Ki-Hyun Kim, Jung Su Park, Tae Yi Kang, Kyungeun Oh, Mi Sook Seo, Youn Soo Sohn, Moo-Jin Jun, Wonwoo Nam,* and Kwan Mook Kim* "Flexibility of Inorganic Tennis Ball Structures Inducing Anion Selectivity" *Chem.–Eur. J.* **2006**, *12*, 7078–7083.

328. Minyoung You, Mi Sook Seo, Kwan Mook Kim, Wonwoo Nam,* and Jinheung Kim* "Structure and Properties of a Nonheme Pentacoordinate Iron(II) Complex with a Macrocyclic Triazapyridinophane Ligand" *Bull. Kor. Chem. Soc.* **2006**, *27*, 1140–1143.

329. Takashi Kamachi, Tomohisa Kouno, Wonwoo Nam,* and Kazunari Yoshizawa* "How Axial Ligands Control the Reactivity of High-Valent Iron(IV)-Oxo Porphyrin π-Cation Radicals in Alkane Hydroxylation: A Computational Study" *J. Inorg. Biochem.* **2006**, *100*, 751–754.

330. Yumi Suh, Mi Sook Seo, Kwan Mook Kim, Youn Sang Kim, Ho G. Jang, Takehiko Tosha, Teizo Kitagawa,* Jinheung Kim,* and Wonwoo Nam* "Nonheme Iron(II) Complexes of Macrocyclic Ligands in the Generation of Oxoiron(IV) Complexes and the Catalytic Epoxidation of Olefins" *J. Inorg. Biochem.* **2006**, *100*, 627–633.

331. Jung Su Park, Tae-Jin Park, Ki-Hyun Kim, Kyungeun Oh, Mi-Sook Seo, Hong-In Lee, Moo-Jin Jun, Wonwoo Nam,* and Kwan Mook Kim* "Synthesis and Characterization of High-Spin Cobalt(II)-Based Inorganic Tennis Ball" *Bull. Kor. Chem. Soc.* **2006**, *27*, 193–194.

332. Woon Ju Song, Ying Ji Sun, Sun Kyung Choi, and Wonwoo Nam* "Mechanistic Insights into the Reversible Formation of Iodosylarene-Iron Porphyrin Complexes in the Reactions of Oxoiron(IV) Porphyrin π-Cation Radicals and Iodoarenes: Equilibrium, Epoxidizing Intermediate, and Oxygen Exchange" *Chem.–Eur. J.* **2006**, *12*, 130–137.

- 2005 -

333. Michael R. Bukowski, Kevin D. Koehntop, Audria Stubna, Emile L. Bominaar, Jason A. Halfen,* Eckard Münck,* Wonwoo Nam, and Lawrence Que, Jr.* "A Thiolate-Ligated Nonheme Oxoiron(IV) Complex Relevant to Cytochrome P450" *Science* **2005**, *310*, 1000–1002.

334. Sun Ok Kim, Chivukula V. Sastri, Mi Sook Seo, Jinheung Kim, and Wonwoo Nam* "Dioxygen Activation and Catalytic Aerobic Oxidation by a Mononuclear Nonheme Iron(II) Complex" *J. Am. Chem. Soc.* **2005**, *127*, 4178–4179.

335. Na Young Oh, Yumi Suh, Mi Joo Park, Mi Sook Seo, Jinheung Kim,* and Wonwoo Nam* "Mechanistic Insight into Alcohol Oxidation by High-Valent Iron-Oxo Complexes of Heme and Nonheme Ligands" *Angew. Chem., Int. Ed.* **2005**, *44*, 4235–4239.

336. Chivukula V. Sastri, Mi Joo Park, Takehiro Ohta, Timothy A. Jackson, Audria Stubna, Mi Sook Seo, Jimin Lee, Jinheung Kim, Teizo Kitagawa, Eckard Münck,* Lawrence

Que, Jr.,* and Wonwoo Nam* "Axial Ligand Substituted Nonheme Fe(IV)=O Complexes: Observation of Near-UV LMCT Bands and Fe=O Raman Vibrations" *J. Am. Chem. Soc.* **2005**, *127*, 12494–12495.

337. Ji Young Kwon, Yun Jung Jang, Yoon Ju Lee, Kwan Mook Kim, Mi Sook Seo, Wonwoo Nam,* and Juyoung Yoon* "A Highly Selective Fluorescent Chemosensor for Pb^{2+}" *J. Am. Chem. Soc.* **2005**, *127*, 10107–10111.

338. Kwan Mook Kim,* Hyunjung Park, Hae-Jo Kim, Jik Chin,* and Wonwoo Nam* "Enantioselective Recognition of 1,2-Amino Alcohols by Reversible Formation of Imines with Resonance-Assisted Hydrogen Bonds" *Org. Lett.* **2005**, *7*, 3525–3527.

339. Jamespandi Annaraj, Yumi Suh, Mi Sook Seo, Sun Ok Kim, and Wonwoo Nam* "Mononuclear Nonheme Ferric-Peroxo Complex in Aldehyde Deformylation" *Chem. Commun.* **2005**, 4529–4531.

340. Bo Gyu Choi, Rita Song, Wonwoo Nam,* and Byeongmoon Jeong* "Iron Porphyrins Anchored to a Thermosensitive Polymeric Core-Shell Nanosphere as a Thermotropic Catalyst" *Chem. Commun.* **2005**, 2960–2962.

341. Woon Ju Song, Yon Ok Ryu, Rita Song, and Wonwoo Nam* "Oxoiron(IV) Porphyrin π-Cation Radical Complexes with a Chameleon Behavior in Cytochrome P450 Model Reactions" *J. Biol. Inorg. Chem.* **2005**, *10*, 294–304.

342. Kwan Mook Kim,* Dongwon Lee, Mi Sook Seo, Hyunjung Park, Rita Song, Moo-Jin Jun, and Wonwoo Nam* "Tuning the Intermolecular Dative Interactions by Altering the Ligand Planarity and Counter Cations in Vanadyl(IV) Complexes" *Dalton Trans.* **2005**, 1567–1569.

343. Mi Sook Seo, Ho G. Jang,* Jinheung Kim,* and Wonwoo Nam* "Generation of a Nonheme Oxoiron(IV) Intermediate and Its Reactivities in Oxidation Reactions" *Bull. Kor. Chem. Soc.* **2005**, *26*, 971–974.

344. Bo Gyu Choi, Soo Y. Ko, Wonwoo Nam,* and Byeongmoon Jeong* "Recyclable Porphyrin Catalyst with Core-Shell Nanostructure" *Bull. Kor. Chem. Soc.* **2005**, *26*, 1819–1822.

345. Se-Eun Park, Woon Ju Song, Yon Ok Ryu, Mi Hee Lim, Rita Song, Kwan Mook Kim, and Wonwoo Nam* "Parallel Mechanistic Studies on the Counterion Effect of Manganese Salen and Porphyrin Complexes on Olefin Epoxidation by Iodosylarenes" *J. Inorg. Biochem.* **2005**, *99*, 424–431.

346. Na Yong Oh, Mi Sook Seo, Mi Hee Lim, Mark B. Consugar, Mi Joo Park, Jan-Uwe Rohde, Jaehong Han, Kwan Mook Kim, Jinheung Kim, Lawrence Que, Jr.,* and Wonwoo Nam* "Self-Hydroxylation of Perbenzoic Acids at a Nonheme Iron(II) Center" *Chem. Commun.* **2005**, 5644–5646.

347. Chivukula V. Sastri, Mi Sook Seo, Mi Joo Park, Kwan Mook Kim, and Wonwoo Nam*

"Formation, Stability, and Reactivity of a Mononuclear Nonheme Oxoiron(IV) Complex in Aqueous Solution" *Chem. Commun.* **2005**, 1405–1407.

348. Jae-Chul Lee, Geum-Sil Cho, Hye Jin Kim, Ji-Hye Lim, Yu-Kyoung Oh, Wonwoo Nam, Jang-Hyun Chung, and Won-Ki Kim* "Accelerated Cerebral Ischemic Injury by Activated Macrophages/Microglia after Lipopolysaccharide Microinjection into Rat Corpus Callosum" *Glia* **2005**, *50*, 168–181.

- 2004 -

349. Jozsef Kaizer, Eric J. Klinker, Na Young Oh, Jan-Uwe Rohde, Woon Ju Song, Audria Stubna, Jinheung Kim, Eckard Münck,* Wonwoo Nam,* and Lawrence Que, Jr.* "Nonheme $Fe^{IV}O$ Complexes That Can Oxidize the C-H Bonds of Cyclohexane at Room Temperature" *J. Am. Chem. Soc.* **2004**, *126*, 472–473.

350. Mi Sook Seo, Jun-Hee In, Sun Ok Kim, Na Young Oh, Jongki Hong, Jinheung Kim,* Lawrence Que, Jr.,* and Wonwoo Nam* "Direct Evidence for Oxygen-Atom Exchange between Nonheme Oxoiron(IV) Complexes and Isotopically Labeled Water" *Angew. Chem., Int. Ed.* **2004**, *43*, 2417–2420.

351. Jan-Uwe Rohde, Stephane Torelli, Xiaopeng Shan, Mi Hee Lim, Eric J. Klinker, Jozsef Kaizer, Kui Chen, Wonwoo Nam, and Lawrence Que, Jr.* "Structural Insights into Nonheme Alkylperoxoiron(III) and Oxoiron(IV) Intermediates by X-Ray Absorption Spectroscopy" *J. Am. Chem. Soc.* **2004**, *126*, 16750–16761.

352. Ju Yeon Ryu, Soonyoung Heo, Philsung Park, Wonwoo Nam,* and Jinheung Kim* "Alkyne Oxidation by Nonheme Iron Catalysts and Hydroperoxides" *Inorg. Chem. Commun.* **2004**, *7*, 534–537.

353. Jaehong Han* and Wonwoo Nam "Synthesis and Structure of the New Fe Complex, $[Fe^{II}Cl_3(PEt_3)]^-$" *Bull. Kor. Chem. Soc.* **2004**, *25*, 910–912.

354. Mi Sook Seo, Youn Soo Sohn, Beom-Seok Yang, Wonwoo Nam,* and Kwan Mook Kim* "Novel Platinum Complexes Having Chirality and Free Tertiary Amine Groups for Multiple Interactions with DNA" *Inorg. Chem. Commun.* **2004**, *7*, 1178–1180.

355. Wonwoo Nam,* Yon Ok Ryu, and Woon Ju Song "Oxidizing Intermediates in Cytochrome P450 Model Reactions" *J. Biol. Inorg. Chem.* **2004**, *9*, 654–660.

- 2003 -

356. Jan-Uwe Rohde, Jun-Hee In, Mi Hee Lim, William W. Brennessel, Michael R. Bukowski, Audria Stubna, Eckard Münck,* Wonwoo Nam,* and Lawrence Que, Jr.* "Crystallographic and Spectroscopic Characterization of a Nonheme Fe(IV)=O Complex" *Science* **2003**, *299*, 1037–1039.

357. Mi Hee Lim, Jan-Uwe Rohde, Audria Stubna, Michael R. Bukowski, Miquel Costas, Raymond Y. N. Ho, Eckard Münck,* Wonwoo Nam,* and Lawrence Que, Jr.* "An Fe^{IV}=O Complex of a Tetradentate Tripodal Nonheme Ligand" *Proc. Natl. Acad. Sci. U.S.A.* **2003**, *100*, 3665–3670.

358. Wonwoo Nam,* Se-Eun Park, In Kyung Lim, Mi Hee Lim, Jongki Hong, and Jinheung Kim "First Direct Evidence for Stereospecific Olefin Epoxidation and Alkane Hydroxylation by an Oxoiron(IV) Porphyrin Complex" *J. Am. Chem. Soc.* **2003**, *125*, 14674–14675.

359. Wonwoo Nam,* Sun Kyung Choi, Mi Hee Lim, Jan-Uwe Rohde, Inwoo Kim, Jinheung Kim, Cheal Kim, and Lawrence Que, Jr.* "Reversible Formation of Iodosylbenzene–Iron Porphyrin Intermediates in the Reaction of Oxoiron(IV) Porphyrin π-Cation Radicals and Iodobenzene" *Angew. Chem., Int. Ed.* **2003**, *42*, 109–111.

360. Charlotte K. Williams, Laurie E. Breyfogle, Sun Kyung Choi, Wonwoo Nam, Victor G. Young, Jr., Marc A. Hillmyer,* and William B. Tolman* "A Highly Active Zinc Catalyst for the Controlled Polymerization of Lactide" *J. Am. Chem. Soc.* **2003**, *125*, 11350–11359.

361. Wonwoo Nam,* So-Young Oh, Ying Ji Sun, Jinheung Kim, Won-Ki Kim, Seung K. Woo, and Woonsup Shin "Factors Affecting the Catalytic Epoxidation of Olefins by Iron Porphyrin Complexes and H_2O_2 in Protic Solvents" *J. Org. Chem.* **2003**, *68*, 7903–7906.

362. Ju Yeon Ryu, Sun Ok Kim, Wonwoo Nam,* Soonyoung Heo, and Jinheung Kim* "Alkane Oxidation Catalyzed by Manganese-tmtacn Complexes with H_2O_2" *Bull. Kor. Chem. Soc.* **2003**, *24*, 1835–1837.

363. Jun-Hee In, Se-Eun Park, Rita Song,* and Wonwoo Nam* "Iodobenzene Diacetate as an Efficient Terminal Oxidant in Iron(III) Porphyrin Complex-Catalyzed Oxygenation Reactions" *Inorg. Chim. Acta* **2003**, *343*, 373–376.

364. In Young Choi, Youngnam Jin, Wonwoo Nam, Hyoung-Chun Kim, and Won-Ki Kim* "Blockade of Peroxynitrite-Mediated Astrocyte Death by Manganese(III)-Cyclam" *Neurosci. Res.* **2003**, *45*, 157–161.

365. Sang-Kun Yoo, Jung Hee Han, Sung Jea Lee, Ji Young Ryu, Cheal Kim,* Sook Won Jin, Youngmee Kim, and Wonwoo Nam* "Conversion of Olefins to *trans*-Diols or *trans*-Diol Monoethers by Using an Iron Porphyrin(III) Complex and H_2O_2" *Inorg. Chem. Commun.* **2003**, *6*, 1148–1151.

- 2002 -

366. Wonwoo Nam,* Sook Won Jin, Mi Hee Lim, Ju Yeon Ryu, and Cheal Kim "Anionic Ligand Effect on the Nature of Epoxidizing Intermediates in Iron Porphyrin Complex-

Catalyzed Epoxidation Reactions" *Inorg. Chem.* **2002**, *41*, 3647-3652.

367. Ju Yeon Ryu, Jinheung Kim, Miquel Costas, Kui Chen, Wonwoo Nam,* and Lawrence Que, Jr.* "High Conversion of Olefins to *cis*-Diols by Non-Heme Iron Catalysts and H_2O_2" *Chem. Commun.* **2002**, 1288–1289.

368. Wonwoo Nam,* Inwoo Kim, Mi Hee Lim, Hye Jin Choi, Je Seung Lee, and Ho G. Jang "Isolation of an Oxomanganese(V) Porphyrin Intermediate in the Reaction of a Manganese(III) Porphyrin Complex and H_2O_2 in Aqueous Solution" *Chem.–Eur. J.* **2002**, *8*, 2067–2071.

369. Wonwoo Nam,* Ju Yeon Ryu, Inwoo Kim, and Cheal Kim "Stereoselective Alkane Hydroxylations by Metal Salts and *m*-Chloroperbenzoic Acid" *Tetrahedron Lett.* **2002**, *43*, 5487–5490.

370. Sun Kyung Choi, Ha Jin Lee, Hyungrok Kim, and Wonwoo Nam* "Epoxidation of Olefins by Cobalt-Containing Polyoxotungstate and Potassium Monopersulfate in Aqueous Solution" *Bull. Kor. Chem. Soc.* **2002**, *23*, 1039–1041.

371. Youngmee Kim, Sun Kyung Choi, Seon-Mi Park, Wonwoo Nam, and Sung-Jin Kim* "Synthesis and Reactivity of Rhenium Cluster-Supported Manganese Porphyrin Complexes" *Inorg. Chem. Commun.* **2002**, *5*, 612–615.

372. Sung Jea Lee, Jun Yong Lee, Hyun Woong Yang, Cheal Kim, Wonwoo Nam, and Youngmee Kim* "Tetraethylammonium Dichloro[4,5-dichloro-1,2-bis(2-pyridine-2-carboxamido)benzene]ferrate(III), $[Et_4N][(bpc)FeCl_2]$" *Acta Cryst. E* **2002**, *E58*, m313–m315.

373. Sung Jea Lee, Jun Yong Lee, Cheal Kim, Wonwoo Nam, and Youngmee Kim* "Triethylammonium Dichloro[1,2-bis(2-pyridinecarboxamidato)-4,5-dimethylbenzene]-ferrate(III)" *Acta Cryst. E* **2002**, *E58*, m191–m193.

- 2001 -

374. Wonwoo Nam,* Inwoo Kim, Youngmee Kim, and Cheal Kim* "Biomimetic Alkane Hydroxylation by Cobalt(III) Porphyrin Complex and *m*-Chloroperbenzoic Acid" *Chem. Commun.* **2001**, 1262–1263.

375. Youngmee Kim, Seon-Mi Park, Wonwoo Nam, and Sung-Jin Kim* "Crystal Structure of the Two-Dimensional Framework $[Mn(salen)]_{4n}[Re_6Te_8(CN)_6]_n$ [salen = *N*,*N*'-ethylenebis-(salicylideneaminato)]" *Chem. Commun.* **2001**, 1470–1471.

376. Youngmee Kim,* Wonwoo Nam, Mi Hee Lim, Sook Won Jin, Alan J. Lough, and Sung-Jin Kim "Methoxy[*meso*-5,10,15,20-tetrakis(2,6-difluorophenyl)porphyrinato]iron(III), $[Fe(TDFPP)(OCH_3)]$" *Acta Cryst. C* **2001**, *C57*, 556–557.

377. Jihee Lee Kang,* In Soon Pack, Su Min Hong, Hui Su Lee, Jong Sik Hah, Wonwoo Nam, Stephen Leonard, and Vincent Castranova "Zinc Tetrakis(*N*-methyl-4'-pyridyl) Porphyrinato Is an Effective Inhibitor of Stimulant-Induced Activation of RAW 264.7 Cells" *Toxicol. Appl. Pharmacol.* **2001**, *172*, 140–149.

378. Youngmee Kim,* Sung-Jin Kim, and Wonwoo Nam "A Ferric-Cyanide-Bridged One-Dimensional Dirhodium Complex with (18-Crown-6)Potassium Cations" *Acta Cryst. C* **2001**, *C57*, 266–268.

379. Mi Hee Lim, Sook Won Jin, Yoon Jung Lee, Gil-Ja Jhon, Wonwoo Nam,* and Cheal Kim* "Electronic Effect of Iron(III) Porphyrin Complexes on the Epoxidation of Cyclohexene: Epoxidation *versus* Hydroxylation" *Bull. Kor. Chem. Soc.* **2001**, *22*, 93–96.

380. In Young Choi, Sun Jung Lee, Wonwoo Nam, Jong-Sun Park, Kwang Ho Ko, Hyoung-Chun Kim, Chan Young Shin, Jang-Hyun Chung, Seo Kyu Noh, Chang-Rak Choi, Dong-Hoon Shin, and Won-Ki Kim* "Augmented Death in Immunostimulated Astrocytes Deprived of Glucose: Inhibition by an Iron Porphyrin FeTMPyP" *J. Neuroimmun.* **2001**, *112*, 55–62.

- 2000 -

381. Wonwoo Nam,* Mi Hee Lim, Sun Kyung Moon, and Cheal Kim "Participation of Two Distinct Hydroxylating Intermediates in Iron(III) Porphyrin Complex-Catalyzed Hydroxylation of Alkanes" *J. Am. Chem. Soc.* **2000**, *122*, 10805–10809.

382. Wonwoo Nam,* Hui Jung Han, So-Young Oh, Yoon Jung Lee, Mee-Hwa Choi, So-Yeop Han, Cheal Kim, Seung Kyun Woo, and Woonsup Shin "New Insights into the Mechanisms of O-O Bond Cleavage of Hydrogen Peroxide and *tert*-Alkyl Hydroperoxides by Iron(III) Porphyrin Complexes" *J. Am. Chem. Soc.* **2000**, *122*, 8677–8684.

383. Wonwoo Nam,* Mi Hee Lim, Ha Jin Lee, and Cheal Kim "Evidence for the Participation of Two Distinct Reactive Intermediates in Iron(III) Porphyrin Complex-Catalyzed Epoxidation Reactions" *J. Am. Chem. Soc.* **2000**, *122*, 6641–6647.

384. Wonwoo Nam,* Mi Hee Lim, So-Young Oh, Jung H. Lee, Ha Jin Lee, Seung K. Woo, Cheal Kim, and Woonsup Shin "Remarkable Anionic Axial Ligand Effects of Iron(III) Porphyrin Complexes on the Catalytic Oxygenations of Hydrocarbons by H_2O_2 and the Formation of Oxoiron(IV) Porphyrin Intermediates by *m*-Chloroperoxybenzoic Acid" *Angew. Chem., Int. Ed.* **2000**, *39*, 3646–3649.

385. Yun-Kyeong Kim, In-Geol Choi, Wonwoo Nam, and Yeon Gyu Yu* "Identification of a Mature Form and Characterization of Thermostability of a Serine-Type Protease from Aquifex Pyrophilus" *J. Biochem. Mol. Biol.* **2000**, *33*, 493–498.

386. Wonwoo Nam,* So-Young Oh, Mi Hee Lim, Mee-Hwa Choi, So-Yeop Han, and Gil-Ja Jhon "Temperature Effect on the Epoxidation of Olefins by an Iron(III) Porphyrin Complex and *tert*-Alkyl Hydroperoxides" *Chem. Commun.* **2000**, 1787–1788.

387. Wonwoo Nam,* Mi Hee Lim, and So-Young Oh "Effect of Anionic Axial Ligands on the Formation of Oxoiron(IV) Porphyrin Intermediates" *Inorg. Chem.* **2000**, *39*, 5572–5575.

388. Wonwoo Nam,* Ha Jin Lee, So-Young Oh, Cheal Kim, and Ho G. Jang "First Success of Catalytic Epoxidation of Olefins by an Electron-Rich Iron(III) Porphyrin Complex and H_2O_2: Imidazole Effect on the Activation of H_2O_2 by Iron Porphyrin Complexes in Aprotic Solvent" *J. Inorg. Biochem.* **2000**, *80*, 219–225.

389. In Young Choi, Sun Jung Lee, Chung Ju, Wonwoo Nam, Hyoung-Chun Kim, Kwang Ho Ko, and Won-Ki Kim* "Protection by a Manganese Porphyrin of Endogenous Peroxynitrite-Induced Death of Glial Cells *via* Inhibition of Mitochondrial Transmembrane Potential Decrease" *Glia* **2000**, *31*, 155–164.

- 1989 – 1999 -

390. Wonwoo Nam,* Yeong Mee Goh, Yoon Jung Lee, Mi Hee Lim, and Cheal Kim "Biomimetic Alkane Hydroxylations by an Iron(III) Porphyrin Complex with H_2O_2 and by a High-Valent Iron(IV) Oxo Porphyrin Cation Radical Complex" *Inorg. Chem.* **1999**, *38*, 3238–3240.

391. Yeong Mee Goh and Wonwoo Nam* "Significant Electronic Effect of Porphyrin Ligand on the Reactivities of High-Valent Iron(IV) Oxo Porphyrin Cation Radical Complexes" *Inorg. Chem.* **1999**, *38*, 914–920.

392. Wonwoo Nam,* Hye J. Choi, Hui J. Han, So H. Cho, Ha Jin Lee, and So-Yeop Han "Use of 2-Methyl-1-phenylpropan-2-yl Hydroperoxide (MPPH) as a Mechanistic Probe for the Heterolytic *versus* Homolytic O-O Bond Cleavage of *tert*-Alkyl Hydroperoxide by Iron(III) Porphyrin Complex" *Chem. Commun.* **1999**, 387–388.

393. Mi Hee Lim, Yoon Jung Lee, Yeong Mee Goh, Wonwoo Nam,* and Cheal Kim* "Hydroxylation of Aliphatic Hydrocarbons with *m*-Chloroperbenzoic Acid Catalyzed by Electron-Deficient Iron(III) Porphyrin Complexes" *Bull. Chem. Soc. Jpn.* **1999**, *72*, 707–713.

394. Sook Jung Yang, and Wonwoo Nam* "Water-Soluble Iron Porphyrin Complex-Catalyzed Epoxidation of Olefins with Hydrogen Peroxide and tert-Butyl Hydroperoxide in Aqueous Solution" *Inorg. Chem.* **1998**, *37*, 606–607.

395. Yoon Jung Lee, Yeong Mee Goh, So-Yeop Han, Cheal Kim, and Wonwoo Nam* "Epoxidation of Olefins with H_2O_2 Catalyzed by an Electronegatively Substituted Iron Porphyrin Complex in an Aprotic Solvent" *Chem. Lett.* **1998**, 837–838.

396. Yoon Jung Lee, Cheal Kim,* Youngah Kim, So-Yeop Han, and Wonwoo Nam* "A High-Valent Iron(IV) Oxo Porphyrin Cation Radical Complex in Olefin Epoxidation Reactions" *Bull. Kor. Chem. Soc.* **1998**, *19*, 1021–1023.

397. Jeong-Ah Yeo, Tae-Sub Cho, Seog K. Kim,* Hyung Rang Moon, Gil-Ja Jhon, and Wonwoo Nam "Interaction between Norfloxacin and Single Stranded DNA" *Bull. Kor. Chem. Soc.* **1998**, *19*, 449–457.

398. Sook Jung Yang, Ha Jin Lee, and Wonwoo Nam* "Epoxidation of Olefins by a Water-Soluble Iron(III) Porphyrin Complex and Hydroperoxides in Aqueous Solution" *Bull. Kor. Chem. Soc.* **1998**, *19*, 276–278.

399. Gwan-Su Son, Jung-Ah Yeo, Jong-Moon Kim, Seog K. Kim,* Hyung Rang Moon, and Wonwoo Nam "Base Specific Complex Formation of Norfloxacin with DNA" *Biophys. Chem.* **1998**, *74*, 225–236.

400. Kyoung Ah Lee, and Wonwoo Nam* "Determination of Reactive Intermediates in Iron Porphyrin Complex-Catalyzed Oxygenations of Hydrocarbons Using Isotopically Labeled Water: Mechanistic Insights" *J. Am. Chem. Soc.* **1997**, *119*, 1916–1922.

401. Jung Min Ahn, Sook Jung Yang, Seh-Yoon Yi, Gil-Ja Jhon,* and Wonwoo Nam* "Oxidative Cleavage of DNA by Water-Soluble Iron Porphyrin Complex and Potassium Monopersulfate" *Bull. Kor. Chem. Soc.* **1997**, *18*, 117–119.

402. Wonwoo Nam,* Hyo Jin Kim, Seong Hoon Kim, Raymond Y. N. Ho, and Joan Selverstone Valentine* "Metal Complex-Catalyzed Epoxidation of Olefins by Dioxygen with Co-Oxidation of Aldehydes. A Mechanistic Study" *Inorg. Chem.* **1996**, *35*, 1045–1049.

403. Wonwoo Nam,* Seung Joong Baek, Kyoung Ah Lee, Byung Tae Ahn, James G. Muller, Cynthia J. Burrows, and Joan Selverstone Valentine* "Nickel Complexes as Antioxidants. Inhibition of Aldehyde Autoxidation by Nickel(II) Tetraazamacrocycles" *Inorg. Chem.* **1996**, *35*, 6632–6633.

404. Kyoung Ah Lee and Wonwoo Nam* "Nature of the Epoxidizing Intermediates in the Epoxidation of Olefins by Hydrogen Peroxide, *tert*-Butyl Hydroperoxide, *m*-Chloroperbenzoic Acid, and Iodosylbenzene Catalyzed by Iron(III) Porphyrin Complex" *Bull. Kor. Chem. Soc.* **1996**, *17*, 669–671.

405. Wonwoo Nam,* Sook Jung Yang, and Hyungrok Kim "Catalytic Oxygenation of Alkenes and Alkanes by Oxygen Donors Catalyzed by Cobalt-Substituted Polyoxotungstate" *Bull. Kor. Chem. Soc.* **1996**, *17*, 625–630.

406. Wonwoo Nam,* Wonkoo Hwang, Jung Min Ahn, Seh-Yoon Yi, and Gil-Ja Jhon "Cobalt-mediated Olefin Epoxidation and Oxidative DNA Cleavage with Potassium Monopersulfate" *Bull. Kor. Chem. Soc.* **1996**, *17*, 414–416.

407. Wonwoo Nam,* Wonkoo Hwang, Seung Joong Baek, and Byoung C. Sohn "Nickel

Complex as a Radical Inhibitor in the Oxidation Reactions by Dioxygen Plus Aldehyde" *Bull. Kor. Chem. Soc.* **1995**, *16*, 896–898.

408. Wonwoo Nam,* Seung Joong Baek, Kazuko I. Liao, and Joan Selverstone Valentine "Epoxidation of Olefins by Iodosylbenzene Catalyzed by Non-Porphyrin Metal Complexes" *Bull. Kor. Chem. Soc.* **1994**, *15*, 1112–1118.

409. Wonwoo Nam, and Joan Selverstone Valentine* "Reevaluation of the Significance of Oxygen-18 Incorporation in Metal Complex-Catalyzed Oxygenation Reactions Carried Out in the Presence of Oxygen-18-Labeled Water ($H_2{}^{18}O$)" *J. Am. Chem. Soc.* **1993**, *115*, 1772–1778.

410. Yun Dong Wu, K. N. Houk, Joan Selverstone Valentine,* and Wonwoo Nam* "Is Intramolecular Hydrogen-Bonding Important for Bleomycin Reactivity? A Molecular Mechanics Study" *Inorg. Chem.* **1992**, *31*, 718–720.

411. Wonwoo Nam, Raymond Ho, and Joan Selverstone Valentine* "Iron-Cyclam Complexes as Catalysts for the Epoxidation of Olefins by 30% Aqueous Hydrogen Peroxide in Acetonitrile and Methanol" *J. Am. Chem. Soc.* **1991**, *113*, 7052–7054.

412. David M. Schubert, Marc A. Bandman, William S. Rees, Jr., Carolyn B. Knobler, Paul Lu, Wonwoo Nam, and M. Frederick Hawthorne* "Synthesis of Group 13 Element Metallacarboranes and Related Structure-Reactivity Correlations" *Organometallics* **1990**, *9*, 2046–2061.

413. Wonwoo Nam and Joan Selverstone Valentine* "Zinc(II) Complexes and Aluminum(III) Porphyrin Complexes Catalyze the Epoxidation of Olefins by Iodosylbenzene" *J. Am. Chem. Soc.* **1990**, *112*, 4977–4979.

414. Wonwoo Nam and Joan Selverstone Valentine* "Hydroxylation of Alkanes by Hydrogen Peroxide Catalyzed by Iron Complexes in the Presence of Pyridine or 2,2'-Bipyridine" *New J. Chem.* **1989**, *13*, 677–682.

Papers from <u>Undergraduate Independent Research</u> in Honors Program

415. Wonwoo Nam, Zahid J. Abdou, Han Lee, Tereso Banuelos, and Thomas Onak* "Thermal Rearrangement Studies on Ethyl and Chloro Diethyl Derivatives of Closo-2,4-$C_2B_5H_7$: Elimination of a 1,2-Substituent-Shift Mechanistic Hypothesis and Further Support of the DSD Cage Rearrangement Mechanism" *Inorg. Chem.* **1989**, *28*, 669–675.

416. Wonwoo Nam and Thomas Onak* "Relative Reactivities of the Small Closo Carboranes 1,6-$C_2B_4H_6$ and 2,4-$C_2B_5H_7$ and of *closo*-1,10-$C_2B_8H_{10}$ Toward Electrophilic Reagents" *Inorg. Chem.* **1987**, *26*, 1581–1586.

417. Wonwoo Nam and Thomas Onak* "Reaction of the Small Closo Carboranes 1,6-$C_2B_4H_6$ and 2,4-$C_2B_5H_7$ with BX_3 (X = halo, phenyl): a Method of Preparing 3-Substituted 2,4-$C_2B_5H_7$ Derivatives and Preparation of 2-Br_2B-*closo*-1,6-$C_2B_4H_5$" *Inorg.*

Chem. **1987**, *26*, 48–52.

418. Zahid J. Abdou, Michael Soltis, B. Oh, G. Siwap, T. Banuelos, Wonwoo Nam, and Thomas Onak* "Kinetic Studies on the Rearrangements of *B*-Monochloro Derivatives of *closo*-2,4-$C_2B_5H_7$ and on the Rearrangement of 5,6-Cl_2-*closo*-2,4-$C_2B_5H_5$. Characterization of All *B,B'*-Cl_2-*closo*-2,4-$C_2B_5H_5$ Isomers" *Inorg. Chem.* **1985**, *24*, 2363–2367.

419. Wonwoo Nam, Michael Soltis, Chester Gordon, Sharon Lee, and Thomas Onak* "Long- and Short-Range NMR Coupling Parameters in *closo*-2,4-$C_2B_5H_7$ and a Number of Its Derivatives" *J. Magn. Reson.* **1984**, *59*, 399–405.

Book Chapter

1. Shunichi Fukuzumi, Yong-Min Lee, and Wonwoo Nam "Hydrogen Evolution by Molecular Photocatalysis" In *Springer Handbook of Inorganic Photochemistry*, *Chapter 46*, pp 1381–1395, Springer (**2022**).

2. Sam P. de Visser and Wonwoo Nam "High-Valent Iron-Oxo Porphyrins in Oxygenation Reactions" (Editors: Karl M. Kadish, Kevin M. Smith, and Roger Guilard) *Handbook of Porphyrin Science,* Volume 10*,* Chapter 44, 85-139 (**2010**).

3. Wonwoo Nam "Cytochrome P450" (Editors: Jon A. McCleverty and Thomas J. Meyer) *Comprehensive Coordination Chemistry II*, Volume 8, 281-307 (**2004**).