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EDUCATION

Ph.D., Organic Chemistry, **ETH Zürich**, Zürich, Switzerland (Advisor: Prof. Bill Morandi) 2018-2021
M.S., Chemistry, **Korea University**, Seoul, South Korea (Advisor: Prof. Sang-Won Lee) 2003-2005
B.S., Chemistry, **Korea University**, Seoul, South Korea 1999-2003

EXPERIENCE

Korea University, Seoul, South Korea
Associate/Assistant Professor 09/2021-present

ETH Zürich, Zürich, Switzerland
Postdoctoral Scholar (Advisor: Prof. Peter Chen) 04/2021-07/2021

Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany
Graduate Researcher (Advisor: Prof. Bill Morandi) 08/2015-06/2018

LG Chem, Daejeon, South Korea
Research Scientist 01/2005-07/2015

On-purpose Linear α-Olefins (Selective Ethylene Tri-/Tetramerization) Project (2012-15); Kazakhstan R&D Center Establishment Project (2012); Bimodal Metallocene High-Density Polyethylene Project (2011-13); Metallocene Linear Low-Density Polyethylene Project (2007-12); Metallocene Polyethylene of Raised Temperature Resistance Project (2006-08); Natural Gas to Vinyl Chloride Project (2005-06); High Impact Strength Poly(Vinyl Chloride) Project (2005)

Republic of Korea Army, South Korea
Expert Research Personnel at LG Chem as Military Service 03/2005-04/2008

POSTECH, Pohang, South Korea
Undergraduate Researcher (Advisor: Prof. Kimoon Kim) 07/2001-08/2001

PUBLICATIONS (selected)

1. Lee, S. E.; Kim, Y.; Lee, Y. H.*, Lim, H. N.* C–C Bond cleavage-induced C- to N-acyl transfer for synthesis of amides. *Org. Lett.* **2024**, *26*, 3646–3651.
2. Yeom, S.; Kim, D. Y.; Kim, S; Gontala, A.; Park, J.; Lee, Y. H.*; Kim, H. J.* Carboxylate-directed Pd-catalyzed β-C(sp3)–H arylation of *N*-methyl alanine derivatives for diversification of bioactive peptides. *Org. Lett.* **2023**, *25*, 9008–9013.
3. Denton, E. H.†; Lee, Y. H.†; Roediger, S.; Boehm, P.; Fellert, M.; Morandi, B. Catalytic carbochlorocarbonylation of unsaturated hydrocarbons via C–COCl bond cleavage. *Angew. Chem. Int. Ed.* **2021**, *60*, 23435–23443 (Highlighted in *Synfacts* **2021**, *17*, 1349. †authors contributed equally).
4. Boehm, P.†; Martini, T.†; Lee, Y. H.; Cacherat, B.; Morandi, B. Palladium-catalyzed decarbonylative iodination of aryl carboxylic acids enabled by ligand-assisted halide exchange. *Angew. Chem. Int. Ed.* **2021**, *60*, 17211–17217 (Highlighted in *Synfacts* **2021**, *17*, 887.).
5. Lee, Y. H.; Denton, E. H.; Morandi, B. Palladium-catalysed carboformylation of alkynes using acid chlorides as a dual carbon monoxide and carbon source. *Nat. Chem.* **2021**, *13*, 123–130 (Highlighted in *Nat. Chem.* News & Views; *Synfacts* **2021**, *17*, 401.).
6. Lee, Y. H.; Denton, E. H.; Morandi, B. Modular cyclopentenone synthesis through the catalytic molecular shuffling of unsaturated acid chlorides and alkynes. *J. Am. Chem. Soc.* **2020**, *142*, 20948–20955.
7. Lee, Y. H.; Morandi, B. Palladium-catalyzed intermolecular aryliodination of internal alkynes. *Angew. Chem. Int. Ed.* **2019***, 58*, 6444–6448 (Selected as VIP paper).
8. Lee, Y. H.; Morandi, B. Transition metal-mediated metathesis between P–C and M–C bonds: beyond a side reaction. *Coord. Chem. Rev.* **2019***, 386,* 96–118.
9. Lee, Y. H.; Morandi, B. Metathesis-active ligands enable a catalytic functional group metathesis between aroyl chlorides and aryl iodides. *Nat. Chem.* **2018**, *10*, 1016–1022.
10. Lee, Y. H.; Morandi, B. C–H Carbonylation: *in situ* acyl triflates ace it. *Nat. Chem.* **2018**, *10*, 116–117 (News & Views article).
11. Lee, Y. H.; Morandi, B. Ether synthesis through reductive cross-coupling of ketones with alcohols using Me_2SiHCl as both reductant and Lewis acid. *Synlett* **2017**, *28*, 2425–2428 (Invited Cluster article).

12. Lee, Y. H.; Shin, J.-W.; Ryu, S.; Lee, S.-W.; Lee, C. H.; Lee, K. Enrichment of *N*-terminal sulfonated peptides by a water-soluble fullerene derivative and its applications to highly efficient proteomics. *Analytica Chimica Acta* **2006**, *556*, 140–144.
13. Lee, Y. H.; Han, H.; Chang, S.-B.; Lee, S.-W. Isotope-coded *N*-terminal sulfonation of peptides allows quantitative proteomic analysis with increased *de novo* peptide sequencing capability. *Rapid Commun. Mass Spectrom.* **2004**, *18*, 3019–3027.
14. Lee, Y. H.; Kim, M.-S.; Choie, W.-S.; Min, H.-K.; Lee, S.-W. Highly informative proteome analysis by combining improved *N*-terminal sulfonation for *de novo* peptide sequencing and online capillary reverse-phase liquid chromatography/tandem mass spectrometry. *Proteomics* **2004**, *4*, 1684–1694.

GRANTED PATENTS

Selected from **60** US Patents and **100** Korean Patents.

1. Metallocene compound, catalyst composition including the same, and method of preparing olefin-based polymer using the same. US Patent 9994653 issued 20180612.
2. 1-Octene composition. US Patent 9969659 issued 20180515.
3. Metallocene compound, a catalyst composition comprising the same, and a method of preparing an olefinic polymer by using the same. US Patent 9725472 issued 20170808.
4. Ligand compound, catalyst system for olefin oligomerization, and method for olefin oligomerization using the same. US Patent 9637508 issued 20170502.
5. Olefin block copolymer. US Patent 9056939 issued 20150616.

AWARDS

POSCO Science Fellowship 2023, POSCO TJ Park Foundation 2023-2025
ETH Medal, ETH Zürich (*Outstanding PhD thesis award*) 2022
Reaxys PhD Prize Finalists 2019, Elsevier 2019

LG Chem R&D Award, LG Chem
"Slurry Phase Process Technology for Very Low Density Polyethylene" 2014
"Production Technology for Polyolefin Elastomers Having High Temperature Resistance" 2011
"Metallocene Linear Low Density Polyethylene for High Impact Strength and High Transparency Film" 2010
"Metallocene Polyethylene of Raised Temperature Resistance for Hot and Cold Water Pipes" 2008

IR (Industrial Research) 52 Jang Young-Shil Award, Korean Industrial Technology Association (KOITA)
"Metallocene Linear Low Density Polyethylene for High Impact Strength and High Transparency Film" 2010
"Metallocene Polyethylene of Raised Temperature Resistance for Hot and Cold Water Pipes" 2007

Distinguished Research Paper Award, Korea University (*Outstanding PhD/MS thesis award*) 2005

INVITED TALKS

Seoul National University, Seoul, South Korea June 12, 2026
Chungbuk National University, Cheongju, South Korea May 28, 2026
Yeungnam University, Gyeongsan, South Korea November 30, 2023
GIST, Gwangju, South Korea March 16, 2023
Dong-A University, Busan, South Korea December 08, 2022
KAIST, Daejeon, South Korea June 28, 2022
Korea Research Institute of Chemical Technology (KRICT), Daejeon, South Korea June 20, 2022
Sogang University, Seoul, South Korea June 08, 2022
DGIST, Daegu, South Korea June 07, 2022
Jeonbuk National University, Jeonju, South Korea May 12, 2022
Ewha Womans University, Seoul, South Korea April 07, 2022
Yeungnam University, Gyeongsan, South Korea February 16, 2022
Seoul National University, Seoul, South Korea December 09, 2021
Sungkyunkwan University, Suwon, South Korea November 24, 2021
Korea University, Seoul, South Korea February 16, 2021
POSTECH, Pohang, South Korea February 04, 2021