Seoyoung Lee
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Research Interest

Organic Synthesis, Transition-metal Catalysis, Organocatalysis, Green Chemistry

Education

KAIST, Daejeon, Korea Mar. 2018
M.S. in Chemistry (Advisor: Professor Hyun Woo Kim) - Feb. 2020
Thesis: Synthesis of aza-macrocycles by palladium-catalyzed dehydrative allylation (Link)
Overall GPA: 3.40/4.0, Major GPA: 3.54/4.0

Hanyang University, Seoul, Korea Mar. 2014
B.S. in Chemistry - Feb. 2017
SUMMA CUM LAUDE, Overall GPA: 3.76/4.0, Major GPA: 3.89/4.0

Kyonggi University, Suwon, Korea Mar. 2011
Transferred to Hanyang University - Feb. 2013
Overall GPA: 3.34/4.0, Major GPA: 3.61/4.0

Journal Papers

1. **S. Lee**, K. Kang, A. Lee, and H. Kim, "Efficient Synthesis of Trans Unsaturated Medium- and Large-Sized Diazacycles by Palladium-Catalyzed Dehydrative Cross-Coupling". (In preparation)
2. S. Youn, H. Yoo, E. Lee, **S. Lee**, "Metal-Free One-Pot Synthesis of (Tetrahydro)Quinolines through Three-Component Assembly of Arenediazonium Salts, Nitriles, and Styrenes", *Adv. Synth. Catal.* **2018**, *360,* 278.

Conferences

1. **S. Lee**, K. Kang, A. Lee, and H. Kim, "Efficient Synthesis of Trans Unsaturated Medium- and Large-Sized Diazacycles by Palladium-Catalyzed Dehydrative Cross-Coupling". the 11th Workshop on Organic Chemistry for Junior Chemists, KAIST, Daejeon, Republic of Korea, 5th June 2019

Patents

Korea Domestic Patent
1. **S. Lee**, S. Park, H. Park, "Foldable Display and manufacturing method thereof". Korea, Application number: 10-2021-0090821 **(patent pending)**
2. **S. Lee**, J. Lee, S. Park, J. Lim "Foldable Display", Korea, Registration number: 10-2020-0189232

International Patent
1. **S. Lee**, J. Lee, S. Park, J. Lim "Optimization of reflection at two viewing angles by optimizing the retarder axis under the polarizer", US Patent number, US 2022/0209201 A1

Project Experience

Study on the origin of Enantiomers Mar. 2018 – Dec. 2018
Advisor: Professor. Hyunwoo Kim, KAIST
KAIST's Own Research Project, funded by KAIST
- Synthesized starting materials for photocatalysts
- Led and designed the overall experiment of the project

Asymmetric ion-pairing catalysis using chiral metal complex Mar. 2018 – Dec. 2019
Advisor: Professor. Hyunwoo Kim, KAIST
Industry R&D Project, funded by Samsung S & T Foundation
- Designed and synthesized various ligands

Hydroformylation reaction catalyst development through ligand design Sep. 2018 – Dec. 2018
Advisor: Professor. Hyunwoo Kim, KAIST
Original Technology Development Project, funded by Ajou University
- Designed and synthesized various ligands

Transition metal catalysis study using novel π-acceptor ligands Sep. 2018 – Feb. 2019
Advisor: Professor. Hyunwoo Kim, KAIST
Basic Research Project, funded by National Research Foundation of Korea
- Proposed a new synthetic method and led the overall experiment
- Synthesized new organic materials via palladium-catalyzed reaction

Honors and Awards

2021 Best Patent Idea Award, *LG Display* Feb. 2021
2019 Workshop on Organic Chemistry for Junior Chemists Gold Award June. 2019
LG Display Scholarship, *KAIST* 2018 - 2020
Graduating with Honors – Summa Cum Laude Feb. 2017
Academic Achievement Excellence Award, *Hanyang University* 2014 - 2016
National Science and Technology Scholarship, *Korean Government* 2012, 2016

Teaching and Mentoring Experience

Mentoring Experience for undergraduate students in MDOS Laboratory, KAIST June. 2018 – Dec. 2019

Employment

LG Display Feb. 2020 - May. 2021
Assistant Researcher; FO Material Development Team
LG Display Jul. 2019 - Aug. 2019
Intern; Material Research Team

Skills

1. Familiar with several chemical experimental techniques such as HPLC and GC-MS analysis
2. Familiar with several property analysis techniques such as Texture Analyzer, UV-Vis, and Ball-drop test
3. Familiar with Microsoft Word, Powerpoint, and Excel