Editorial Board Focus: Professor Jung Min Joo (Department of Chemistry, Kyung Hee University, South Korea)

Background and Purpose. From time to time, SYNFORM portraits Thieme Chemistry Editorial Board or Editorial Advisory Board members who answer several questions regarding their research interests and revealing their impressions and views on the developments in organic chemistry as a general research field. This Editorial Board Focus presents Professor Jung Min Joo (Department of Chemistry, Kyung Hee University, South Korea) who joined the Editorial Board of SYNTHESIS with effect of January 2023.

Biographical Sketch

Prof. J. M. Joo

Jung Min Joo earned a bachelor's and master's degree from Seoul National University, South Korea (2001 and 2003, respectively, under Prof. Eun Lee) and a Ph.D. from Princeton University, USA (2008, Prof. Chulbom Lee). She then did postdoctoral work at Columbia University, USA (Prof. Dalibor Sames) and worked as a process chemist at Eli Lilly and Company in Indiana, USA. In 2013, she began as a faculty member at Pusan National University (South Korea), where she became a full professor in 2022. In March 2023, she moved to the Department of Chemistry at Kyung Hee University (South Korea). Her research includes transition-metal-catalyzed C–H functionalization reactions by developing new ligands and development of redox-active organic materials, with a focus on heterocycles.

INTERVIEW

SYNFORM *How do you describe the value of a product such as SYNTHESIS to the chemistry community?*

Prof. J. M. Joo SYNTHESIS is a highly respected journal in the field of synthetic organic chemistry, with a rich history of publishing full papers and reviews since 1969. Its aim is to advance the science of chemical synthesis by providing new reactions and applications with detailed experimental procedures and full characterization of organic compounds. Together with its sister journals SYNLETT, *SynOpen*, and SYNFACTS, SYNTHESIS plays a key role in disseminating knowledge and data related to organic chemistry to address the evolving needs of the chemistry community.

SYNFORM *What do you think about the modern role and prospects of organic synthesis?*

Prof. J. M. Joo When I was a graduate student in early 2000, I heard a story from one of the senior organic professors visiting the department. When he was a graduate student in the 1980s, many people thought that organic chemistry had already been so thoroughly developed that no new breakthroughs were possible. However, significant progress had been made in the field since then, and he remained convinced of the potential of organic chemistry. I also believe that organic chemistry has been, and will continue to be, crucial in developing new drugs and materials that can solve various problems in health, energy, and the environment. Although the number of possible small drug-like organic molecules is estimated to be more than 10^{60}, we have only explored a small fraction of this chemical space. Therefore, new methods for synthesizing and designing new organic molecules are needed more than ever.

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SYNFORM *You are a leading researcher with regard to transition-metal catalysis and heterocyclic chemistry. Could you tell us more about how important you perceive this particular topic to be?*

Prof. J. M. Joo Transition-metal catalysts and heterocycles are indispensable tools in the development of drugs, agrochemicals, and functional materials. The selectivity and efficiency of transition-metal catalysts in forming new chemical bonds are critical in the synthesis of target compounds. Furthermore, these catalysts enable new reactivities, allowing the creation of complex molecules in unprecedented ways. In recent years, transition-metal-catalyzed C–H functionalization has been significantly advanced, simplifying synthetic sequences by selectively replacing ubiquitous C–H bonds with functional groups. Similarly, numerous methods have been developed for the preparation of heterocycles, facilitating systematic investigation of the effects of heterocyclic cores and substituents. Collectively, these advancements have expanded the toolbox of organic chemists, thereby enabling greater exploration of the chemical space and the development of novel molecules with improved properties.

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