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Linking Polymer Chains in Macromolecular Architecture: Control of Sequence, Segregation, and Chemical Structure

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Building up of complexly architected macromolecules by deliberately linking polymer chains has been one of the central themes in synthetic polymer chemistry. Combining different chains and expanding the range of accessible architectures has enabled to create new materials with unprecedented properties stemmed from the unique chemical nature. We are particularly interested in developing ways to control composition and spatial arrangements of the polymer segments in the target architecture. In this talk, I would like to discuss how sequence, segregation, and chemical structure of the segments can be controlled in a programmed fashion. By highlighting our recent efforts on single unit monomer insertion (SUMI) in the synthesis of asymmetric bottlebrush polymers, intramolecular segregation in the synthesis of heteroarm core cross-linked star polymers, and post-polymerization modification for synthesis of polyolefin, I hope to demonstrate that previously inaccessible polymers with novel self-assembly behavior can be realized.

本講演は、大学院総合化学院『化学研究先端講義（修士課程選択科目）』／

総合化学特別研究第二（博士後期課程選択科目）』の一部として認定されています。

This seminar is approved of the "Topical Lectures in Chemical Sciences and Engineering" (for MC students) and the "Research in Chemical Sciences and Engineering II" (for DC students) under the Graduate School of Chemical Sciences and Engineering.

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