



演 題 : **Precision Synthesis of Polymers by Controlled Radical Polymerization: from Microstructures to Topologies**

講 師 : **Prof. Zhengbiao Zhang**

Department of Polymer Science and Engineering, College of Chemistry,  
Chemical Engineering and Materials Science, Soochow University,  
China

日 時 : 2015 年 7 月 29 日 (水) 10:00~11:30

場 所 : 工学部材料・化学棟中会議室 (MC102)

共 催 : 高分子学会北海道支部

要旨 : Natural polymers generated by sophisticatedly biological mechanisms, such as DNA, proteins and peptides, are known to possess precisely controlled structures, enabling these polymers with accurate and unique functions. The precision synthesis of macromolecules with tailor-made microstructures and topologies is one of the ultimate goals for polymer chemists, despite highly challenging. Here, I share some of our recent attempts on this issue. Firstly, the hydrogen bonding interaction was used in controlled radical polymerization for enabling advance control over molecular weights, tacticity and monomer sequence. Then, the chain ends of the well-defined polymer from controlled radical polymerization can be effectively modified to “clickable” terminals. Finally, using these macromolecules with “clickable” chain ends as building blocks, diverse macromolecules with well-defined architectures can be constructed, including tadpole-, spiro-, fused-dicyclic tadpole, cyclic-brush shaped, nano-diamond-ring-like and so on.

本講演は、大学院総合化学院『化学研究先端講義/総合化学特別研究第二』の一部として認定されています。

連絡先 : 工学研究院応用化学部門 覚知 豊次 (内線 : 6602)

文部科学省特別経費「分子構築イノベーション」