

Precise Olefin Metathesis: Efficient Methods for Synthesis of Advanced Conjugated Polymers, Conversion of Bio Renewables

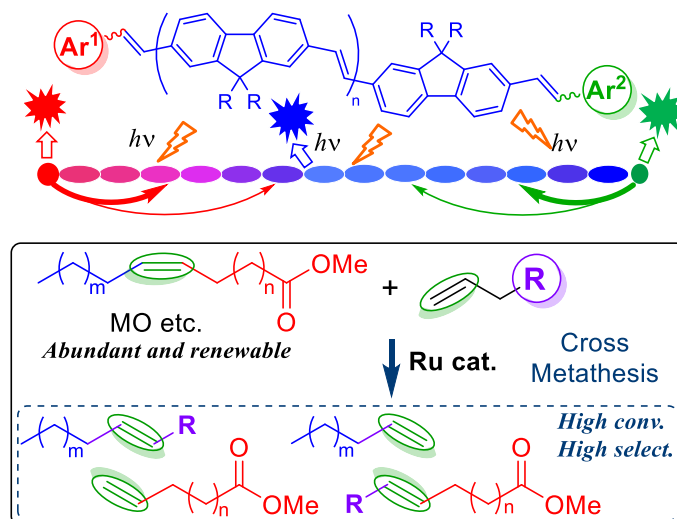
Kotohiro Nomura

Department of Chemistry, Tokyo Metropolitan University, Japan

Olefin metathesis has been recognized as the useful method for synthesis of various organics, polymers, and advanced materials,¹ and the metal-carbene (alkylidene) species play a key role in this catalysis. We recently demonstrated that precise synthesis of end-functionalized (defect free, high molecular weight) conjugated polymers has been attained by combined stereospecific ADMET (Acyclic Diene Metathesis) polymerization with Wittig-type coupling (of metal-polymeric double bonds with aldehyde). The study clearly indicates that the optical properties in the resultant materials are highly affected by the end-group, and further modifications (such as grafting, post modification) can be possible.^{1,2} More recently, we demonstrated efficient conversion of unsaturated fatty acid esters obtained from vegetable (*Jatropha*) oils by cross metathesis with terminal olefins.³ In this symposium, basic concept of olefin metathesis and our recent efforts in details will be introduced.

Corresponding author e-mail ktnomura@tmu.ac.jp

Precise Synthesis of End-Functionalized Conjugated Polymers



References

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Author Biography:

Kotohiro Nomura

Professor, Ph.D.

Tokyo Metropolitan University, Japan

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