グローバル COE 物質科学イノベーション講演会

演 題：Anionic Polymerization and CuAAC “Click" Chemistry: Combination of Two Ideal Methods for the Synthesis of Well-Defined Polymers

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日 時：2012 年 2 月 3 日（金）10:30 ～ 12:00

場 所：北海道大学工学部材料・化学棟大会議室（MC526）

共 催：日本化学会北海道支部・高分子学会北海道支部

要 旨：The unique characteristics of Cu-catalyzed terminal alkyne/azide “click” reaction have contributed considerably to the popularity of “click” chemistry within the polymer and materials science communities. However, apart from the use of post-anionic polymerization reactions to introduce active “clickable” groups with subsequent loss of the lithium site, “clickable” groups have never been simultaneously present with the lithium-propagating sites. Such species would have the potential to take advantage of both the lithium and active “clickable” sites, thereby combining two ideal methods, for the synthesis of well-defined complex architectures. Herein, the preparation of the acetylene-functionalized initiator 5-triethylsilyl-4-pentynyllithium is presented. The strength of using this initiator for the synthesis of complex macromolecular architectures was proven by the preparation of well-defined cyclic and multiblock copolymers of polystyrene and polyisoprene.

1) A. Touris, J. W. Mays, N. Hadjichristidis “Acetylene-Functionalized Lithium Initiators for Anionic Polymerization. Powerful Precursors for “Click” Chemistry, Macromolecules, **44**, 1886 (2011)
2) A. Touris , N. Hadjichristidis, “Cyclic and Multiblock Polystyrene-b-Polyisoprene Copolymers by Combining Anionic Polymerization and Azide/Alkyne “Click” Chemistry”, Macromolecules, **44**, 1969 (2011)

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