

COINS Seminar #39

[Date] Dec/7/2018 (Fri) 11 : 00~12 : 00 (Registration Open at 10 : 30)

[Venue] Innovation Center of NanoMedicine (iCONM) 3F 3001 Meeting room

[Registration] URL: https://www.cis-trans.jp/coins_seminar39/index.html

Title : β -acid amide-based materials: charge-conversion chemistry and new polymeric materials

Abstract : β -acid amide structure can be generated by a simple reaction between amines and five-membered cyclic anhydrides. The very sensitive pH-dependent degradability of β -acid amide structure is attractive for development of smart biomaterials responding to mild pH change. In this seminar, we first introduce a novel ring-opening metathesis polymer (ROMP) based on β -acid amide structure with a tailored pH-dependent degradability. Next, we partially elucidate the pH-responsive degradation mechanism of β -acid amide structures by both experimental and theoretical evidences. Finally, we introduce an interesting structure related to the β -acid amide from guanidines, which can be synthesized in mild reaction conditions, and examine the reactivity and degradability of the structure.

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<CV>

Yan Lee received his BS (1999), MS (2001), and PhD (2005) from the Department of Chemistry, SNU, Korea (Supervisor: Prof. Jong-Sang Park). He worked as a post-doctoral researcher (2005-2008) and a project assistant professor (2008-2009) in Prof. Kazunori Kataoka's group in the University of Tokyo, Japan. He started his independent research at SNU in 2009 and became an associate professor in 2014. He is focusing on the development of materials with signal-sensitivity and bio-functionalities.

<Key words>

Bioorganic Chemistry, Materials Chemistry, Polymer Chemistry, Signal-Responsive Materials, Cell Penetrating Peptides, Drug Delivery