



POLYMER PROGRAM SEMINARS

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Thursday, May 30, 2019
11:10 am, IMS-20

“Supramolecular Approach for New Targeted Cancer Therapy: from Assembly to Nanomedicine”

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Cancer is one of the biggest disease worldwide, a huge threat of human. The endeavor efforts to cure the cancer have been developed from cytotoxic chemotherapy, targeted chemotherapy, to immunotherapy. However, the cytotoxic chemotherapy has severe side effects to kill healthy normal cells, and targeted chemotherapy which inhibits specific cancer proteins has drug resistance problem, and immunotherapy is only applicable for limited patient. Therefore, it is highly demanded to develop new paradigm of cancer therapy. Our research team has investigated new cancer therapy using supramolecular approach. In this talk, I would like to discuss about intra-mitochondrial assembly and supramolecularly protein-modified nanomedicine for targeted cancer therapy. In the first part, I will talk about the supramolecular polymerization of dipeptide inside the mitochondria. At the second part, I will talk about cancer-targeted nanomedicine to prevent the clearance of the particles by macrophages, while ensuring their targeting function *in vitro* and *in vivo*. These findings can provide a new insight into intra-mitochondrial assembly for the therapeutic approach and new targeting platform for the biomedical community since numerous functional proteins can be installed by the similar fashion.

Host: Raji Kasi