

Self-assembly of architecture controlled copolymers in solution using DPD simulation

김용주[†]

국민대학교

(cyyjee@kookmin.ac.kr[†])

Copolymer particles have drawn significant attention as designing functional soft materials and building blocks for colloidal superstructures. Conventional methods for the fabrication of polymeric particles are based on the mechanical deformations which are either expensive and/or improper for large-scale productions. In this study, we suggest the novel methods in controlling size and shape of copolymer particles by changing copolymer architecture in solution self-assembly. By using computer simulation, we designed complex micelles and vesicles. Detailed underlying physics are followed with experimental verification. We believe that our novel strategy will open a new possibility of designing nano-sized soft particles for the functional materials design.