

## **Polymer Nanoparticles with Tunable Shapes and Internal Structures**

Jiangping Xu and Jintao Zhu\*

School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

**B**lock copolymer assemblies have attracted great attention due to their potential applications in the fields of drug delivery, targeting therapy, medical diagnosing and imaging. 3 dimensional (3D) confinement, which can break the symmetry of a structure, has proven to be a powerful route to tailor the morphologies of block copolymer

particles. Particle shape and internal structure can thus be tuned by using the supramolecular strategy or tailoring the interfacial interaction of the particles with the dispersed medium.<sup>1-3</sup> We will introduce the generation of the nano-objects with well tunable shapes by taking advantage of 3D confined assembly and supramolecular chemistry. Particles with various internal structures can be obtained due to the 3D soft confinement in emulsion droplets. Moreover, we will show that selective disassembly of the structured particles will give rise to mesoporous particles or nano-objects with unique shapes.

[jtzhu@mail.hust.edu.cn](mailto:jtzhu@mail.hust.edu.cn)