In situ synthesis of thermo-responsive ABC triblock terpolymer nano-objects by seeded RAFT polymerization

Yaqing Qu, Fei Huo, Quanlong Li, Xin He, Shentong Li, and Wangqing Zhang*

Key Laboratory of Functional Polymer Materials of the Ministry of Education, Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Institute of Polymer Chemistry, Nankai University, Tianjin 300071, China.

*To whom correspondence should be addressed. E-mail: wqzhang@nankai.edu.cn, Tel: 86-22-23509794, Fax: 86-22-23503510.

Scheme S1. The chemical structure of ECT.

Figure S1. The TEM image of the seed-nanoparticles of PS_{135-b-PDMA_{80}}-TTC diblock copolymer dispersed in the ethanol/water/NIPAM (80/20/16.7 by weight) ternary mixture with polymer concentration at 4.9 wt%.
**Figure S2.** Size distribution of the PS$_{135}$-b-PDMA$_{80}$-TTC seed-nanoparticles (A) and the typical triblock terpolymer nano-objects of PS$_{135}$-b-PDMA$_{80}$-b-PNIPAM$_{312}$ (B).

**Figure S3.** The TEM image of the PS$_{135}$-b-PDMA$_{80}$-b-PNIPAM$_{368}$ triblock terpolymer nanospheres prepared through the seeded RAFT polymerization at time of 4 h.
Figure S4. TEM image of PS$_{135}$-b-PDMA$_{80}$-b-PNIPAM$_{76}$ triblock terpolymer nano-objects in water at temperature of 50 °C.