

## RESPONSIVE BEHAVIOR OF PDMAEMA-BASED BRUSHES GRAFTED ON SILICA NANOPARTICLES

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### ABSTRACT

Different poly(*N,N*-dimethylaminoethyl methacrylate) PDMAEMA-based brushes were grafted onto the surface of silica nanoparticles via surface-initiated atom transfer radical polymerization to form multi-responsive brushes. The resultant samples were characterized via <sup>1</sup>H NMR, transmission electron microscopy, atomic force microscopy, Fourier transform infrared spectroscopy, and thermogravimetric analysis. The change of lower critical solution temperature (LCST) of the PDMAEMA brushes under different conditions (such as pH, temperature, etc) was detected by dynamic light scattering. The spherical copolymer brushes from copolymerization of DMAEMA and 7-(2-methacryloyloxyethoxy)-4-methylcoumarin was prepared. And their multi-responsive behavior under different modes of confinement in solution was also investigated[1-4].

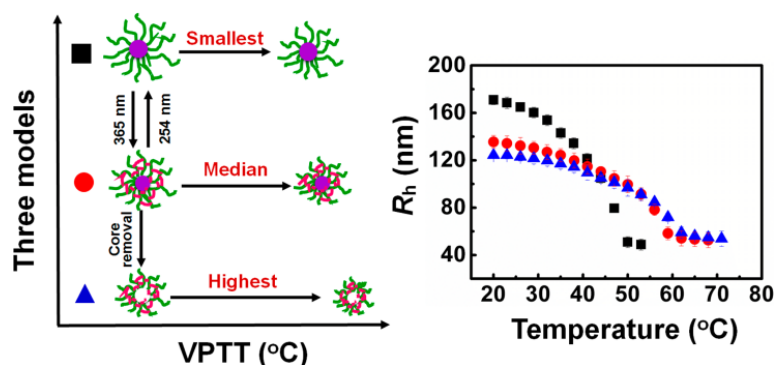


Fig. 1 Schematic of morphological and VPTT change under three models.

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### References:

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