

## Electronic Supplementary Information

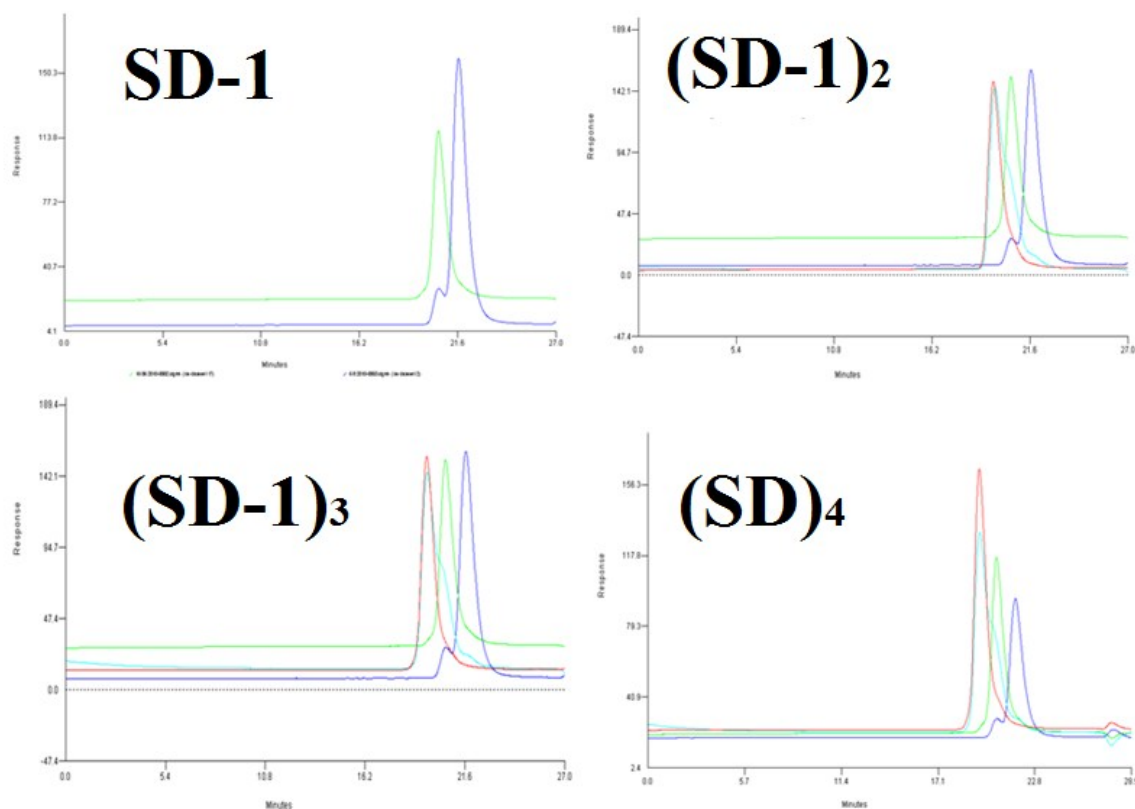
# Synthesis, Molecular Characterization and Self-Assembly of (PS-*b*-PDMS)<sub>n</sub> Type Linear (n = 1,2) and Star (n = 3,4) Block Copolymers

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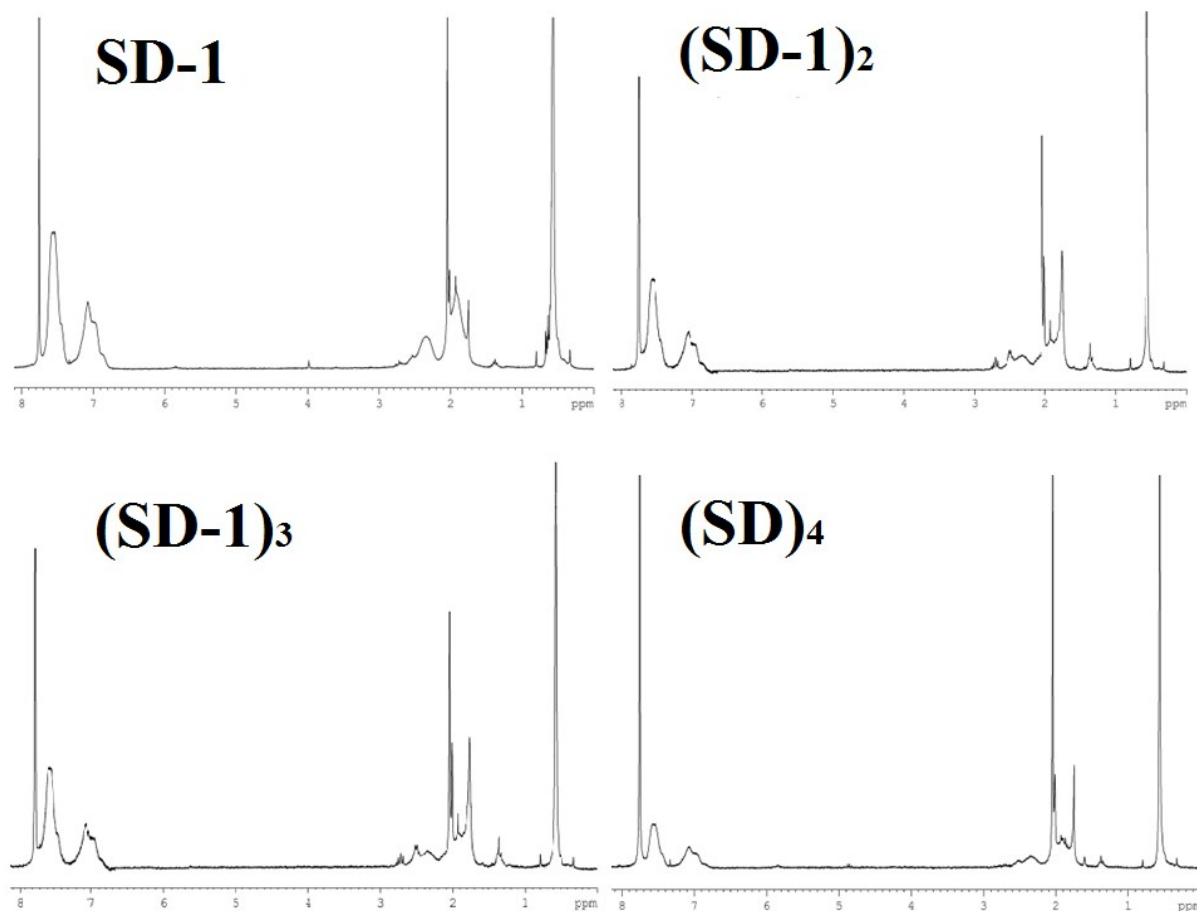
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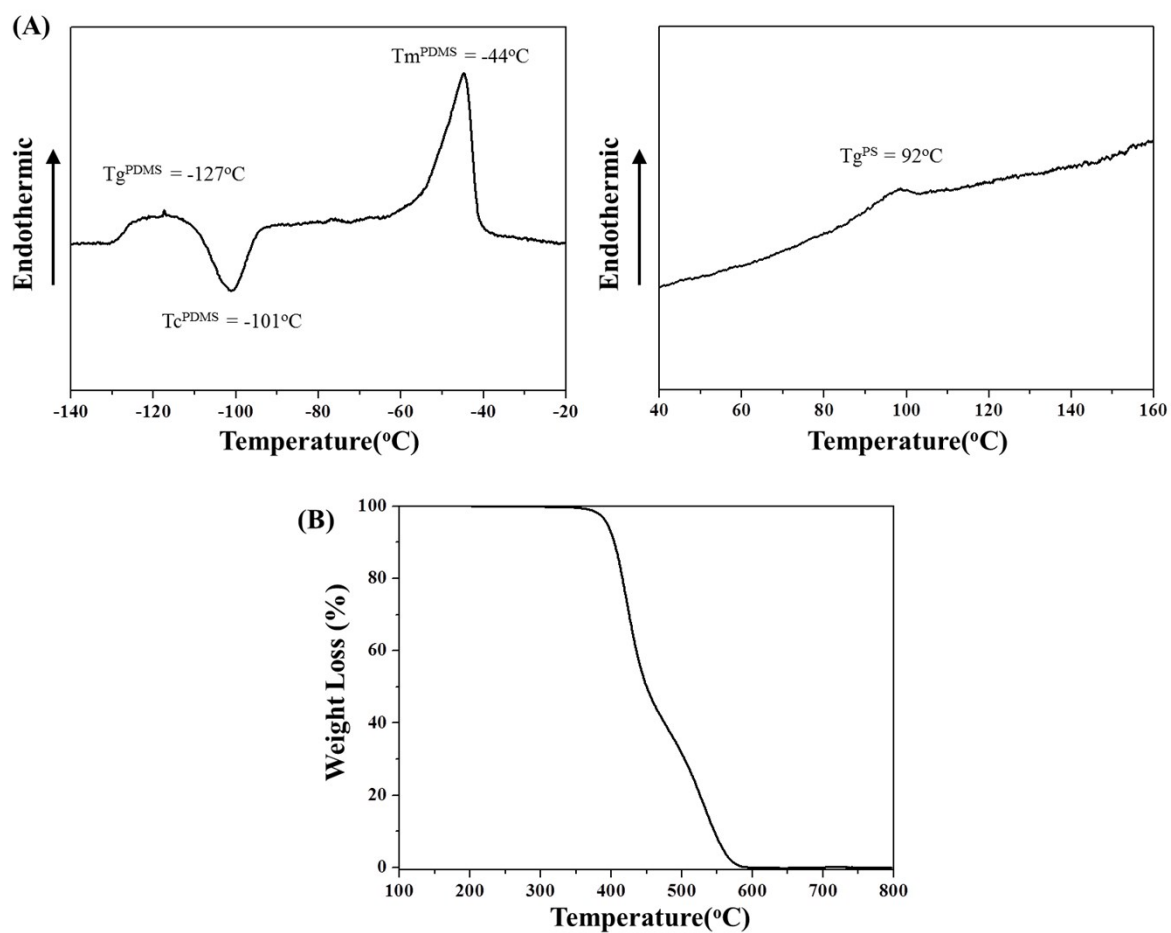
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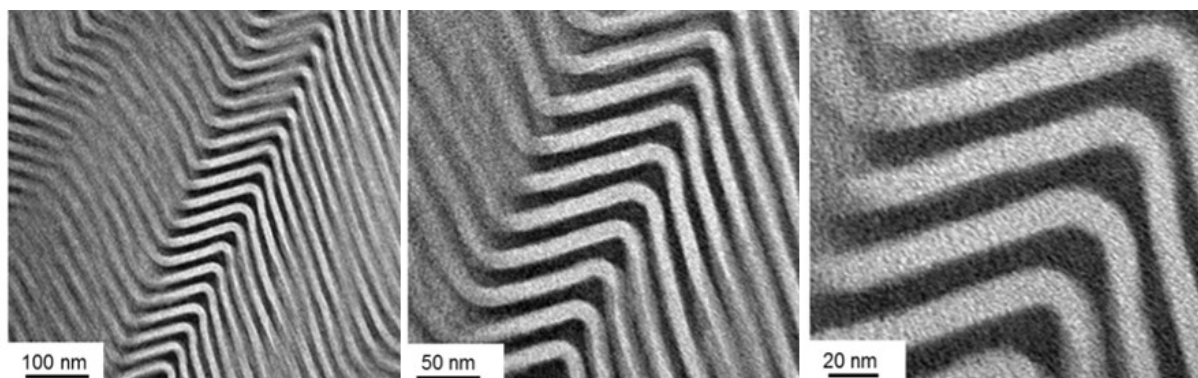
**Figure S1a.** Chromatographs of diblock copolymer SD-1, triblock copolymer (SD-1)<sub>2</sub>, 3-arm star block copolymer (SD-1)<sub>3</sub> and 4-arm star block copolymer (SD)<sub>4</sub>. Different color will correspond to different product during the synthesis process: PS precursor (blue), the diblock (SD-1) (green), the un-fractionated star-block copolymer (cyan) and the fractionated star-block copolymer (red).



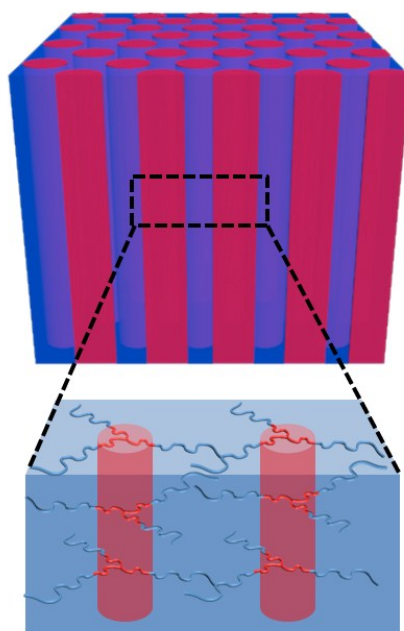
**Figure S1b.** <sup>1</sup>H-NMR spectra of the diblock copolymer SD-1, triblock copolymer (SD-1)<sub>2</sub>, 3-arm star block copolymer (SD-1)<sub>3</sub> and 4-arm star block copolymer (SD)<sub>4</sub>.



**Figure S2.** (A) DSC and (B) TGA thermographs of  $(\text{SD-1})_3$  three arm star-block copolymer.



**Figure S3.** TEM images of sample (SD-1)<sub>3</sub> at different magnifications.



**Figure S4.** Schematic illustration of the packing of the polymer chain for cylinder forming three-arm star-block copolymer.