

Electronic Supplementary Information (ESI) for

**A new strategy of post-polymerization modification to prepare
functionalized poly(disubstituted acetylenes)**

Yuan Gao,^a Xiao Wang,^a Li Tong,^a Anjun Qin,^a Jing Zhi Sun*^a and Ben Zhong Tang*^{a, b}

^aMOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Institute of Biomedical Macromolecules, Zhejiang University, Hangzhou 310027, PR China;

^bDepartment of Chemistry, Institute for Advanced Study, Institute of Molecular Functional Materials, State Key Laboratory of Molecular Neuroscience, and Division of Biomedical Engineering, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong, China.

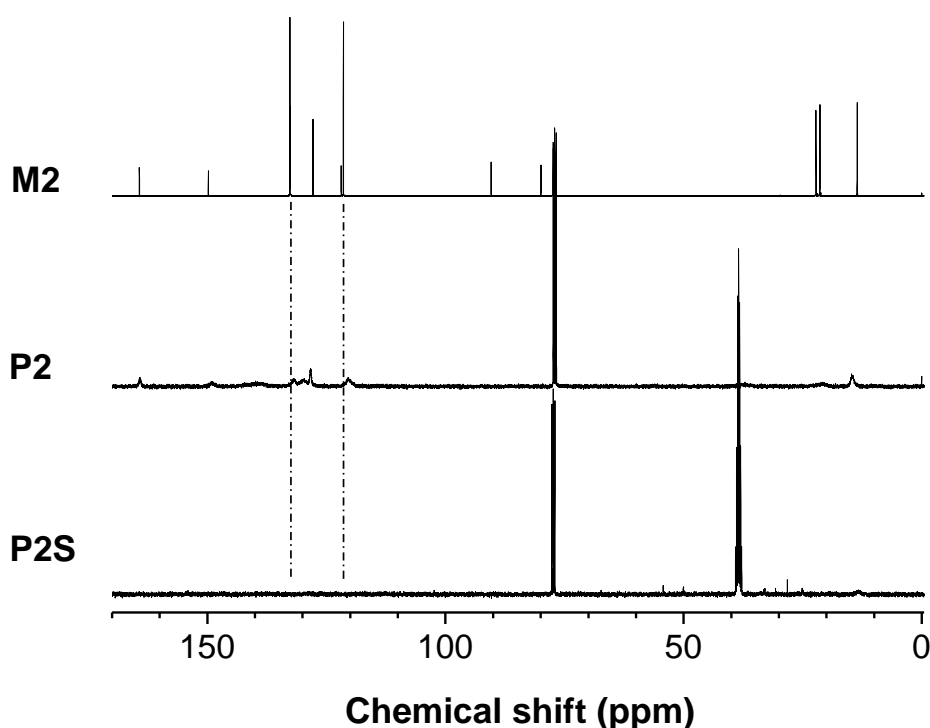


Fig. S1 ¹³C NMR spectra of **M2**, **P2** and **P2S**. The disappearance of the chemical shifts implies the elimination of the vinyl groups.

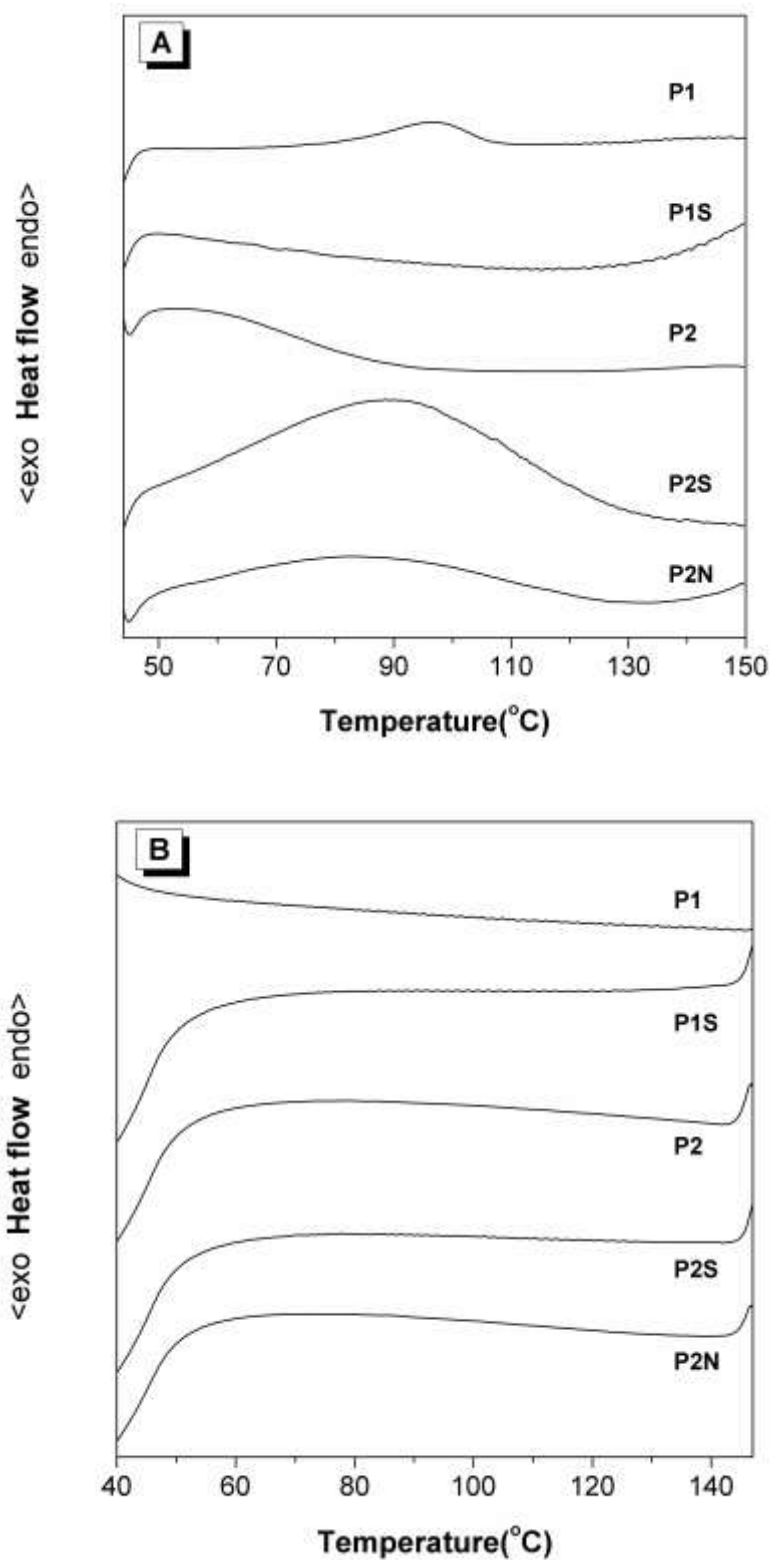


Fig. S2 Differential scanning calorimetric (DSC) curves for all polymer samples (**P1**, **P2**, **P1S**, **P2S**, and **P2N**), (A) and (B) are heating and cooling processes respectively. Scanning rate: 20 °C/min; hold for 2.0 min at 150.00 °C.

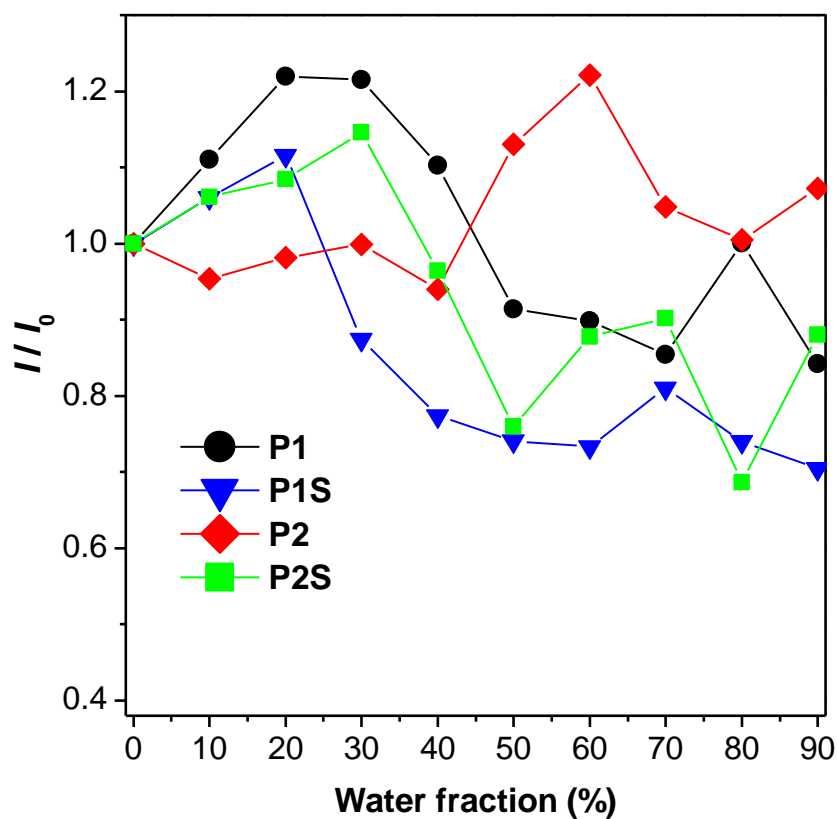


Fig. S3 Variation of the relative fluorescence intensity (I/I_0) of the obtained poly(disubstituted acetylenes) (**P1**, **P2**, **P1S** and **P2S**) in THF/water mixtures with changing water fraction (by volume) from 0 to 90% , where I and I_0 are the fluorescence intensity recorded for the samples in the pure THF solution. Polymer concentration: 10 μM ; Excitation wavelength: 280 nm.