

Supporting Information

Molecular Layer-by-Layer Self-Assembly and Mercury Sensing Characteristics of Novel Brush Polymers Bearing Thymine Moieties

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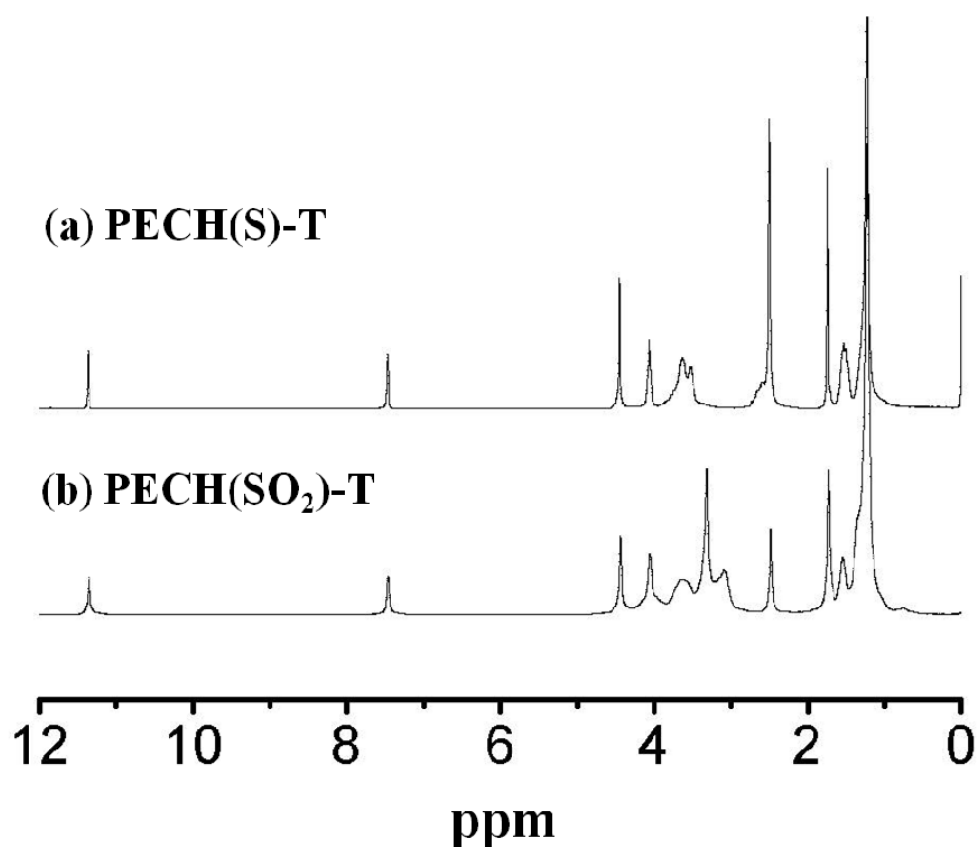


Figure S1. ¹H NMR spectra of the brush polymers measured in DMSO-*d*₆.

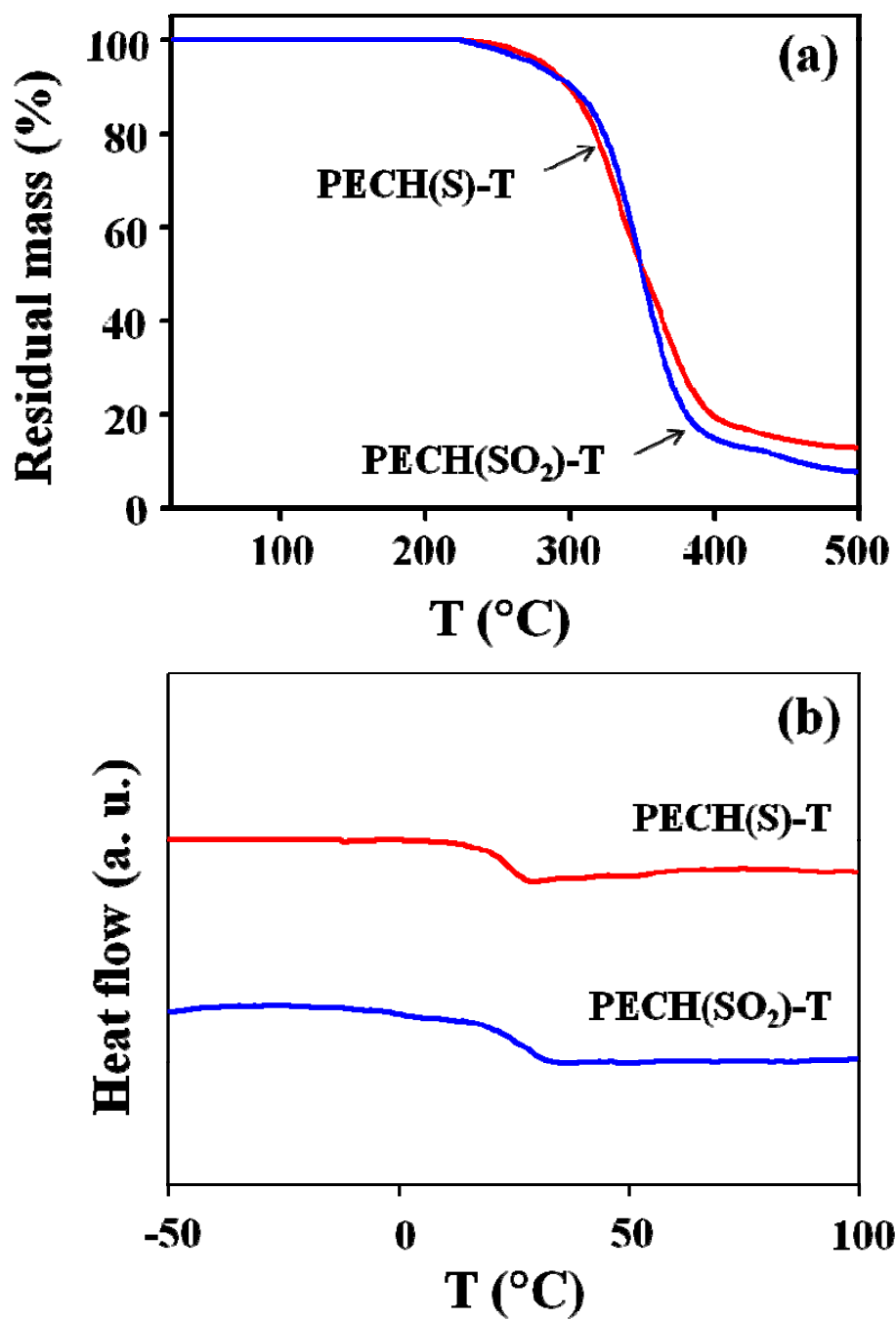


Figure S2. (a) TGA and (b) DSC thermograms of the brush polymers, which were measured at a heating rate of 10.0 °C/min under a nitrogen atmosphere.

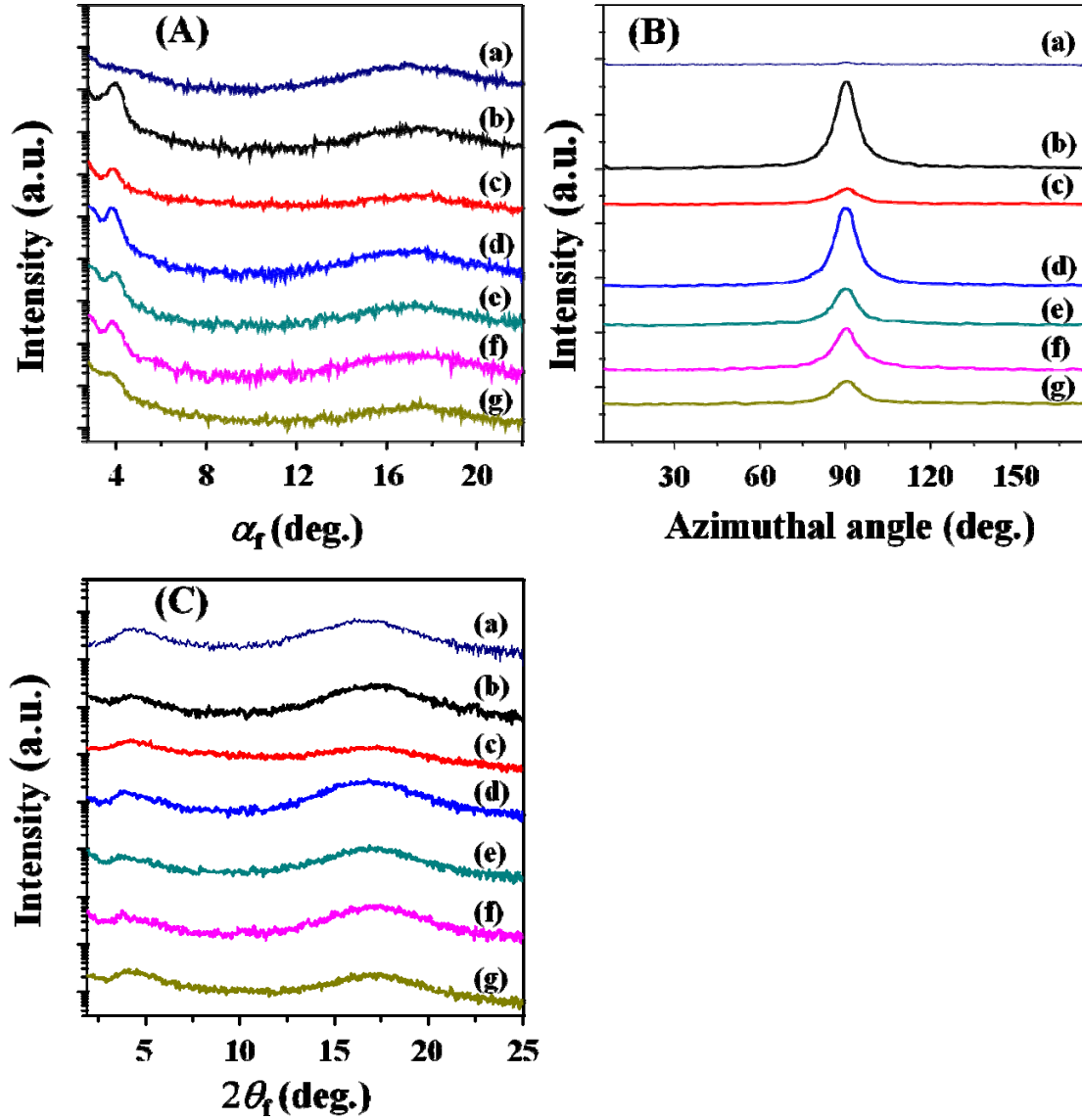


Figure S3. Scattering profiles extracted from the GIXS patterns of PECH(S)-T films in Figure 2: (A) out-of-plane scattering profiles extracted along the α_f direction at $2\theta_f = 0^\circ$; (B) azimuthal angle profiles of the scattering peak in the low angle region; (C) in-plane scattering profiles extracted along the $2\theta_f$ direction at $\alpha_f = 0^\circ$. The films were in (a) dry condition and treated with (b) water, (c) Hg^{2+} ion (d) Zn^{2+} ion (e) Cu^{2+} ion (f) Fe^{2+} ion and (g) Ag^+ ion solution.

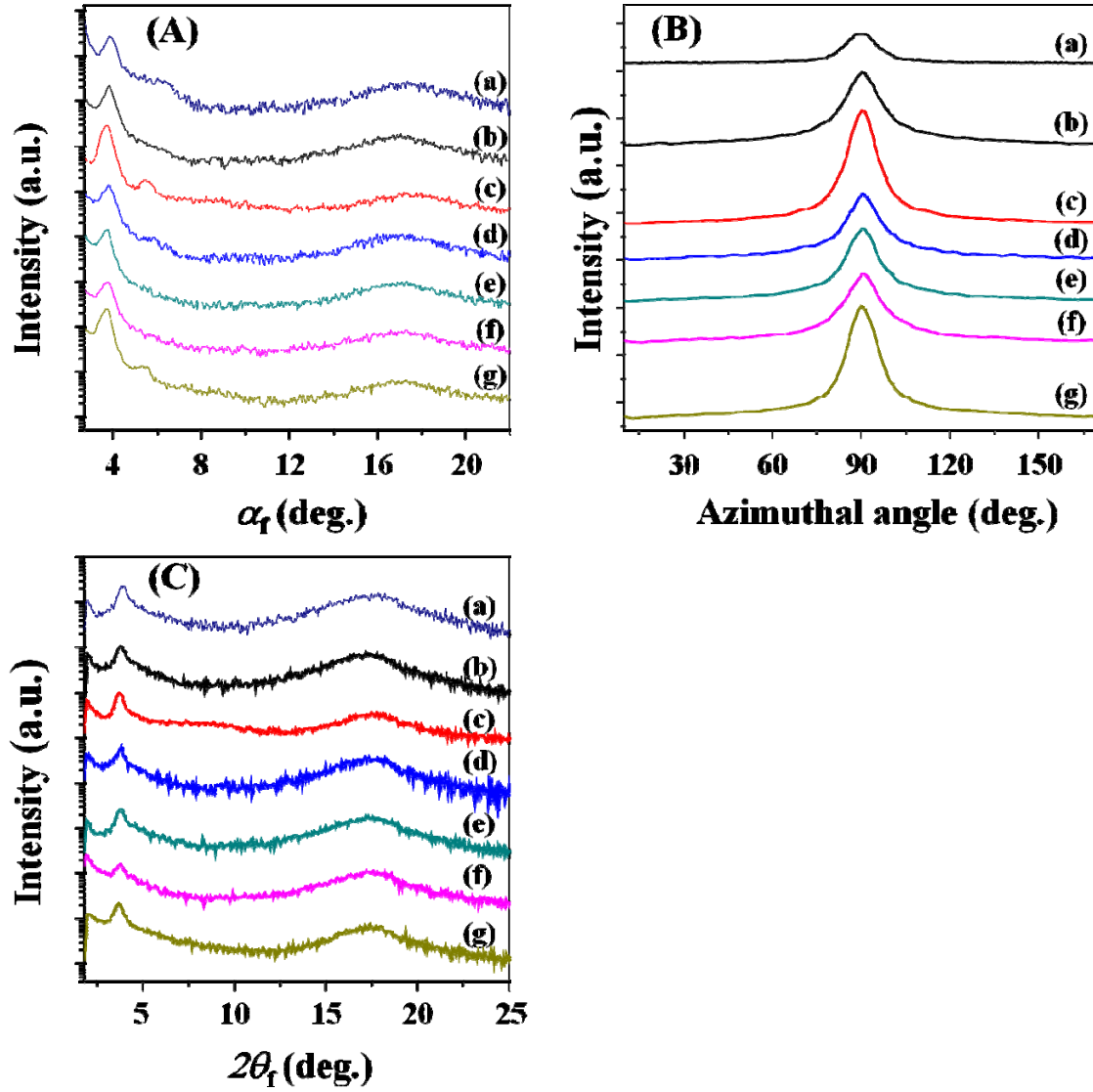


Figure S4. Scattering profiles extracted from the GIXS patterns of PECH(SO₂)-T films in Figure 3: (A) out-of-plane scattering profiles extracted along the α_f direction at $2\theta_f = 0^\circ$; (B) azimuthal angle profiles of the scattering peak in the low angle region; (C) in-plane scattering profiles extracted along the $2\theta_f$ direction at $\alpha_f = 0^\circ$. The films were in (a) dry condition and treated with (b) water, (c) Hg^{2+} ion (d) Zn^{2+} ion (e) Cu^{2+} ion (f) Fe^{2+} ion and (g) Ag^{+} ion solution.