

Equilibrium and non-equilibrium Nanoscale ordering of Polystyrene-*b*-poly(*N,N*'diethylaminoethylmethacrylate) a block copolymer carrying tertiary amine functional groups.

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Characterization of Block copolymer PS₉₀-*b*-PDEAEM₉ (M_n=45,760 g/Mol, PDI= 1.09)

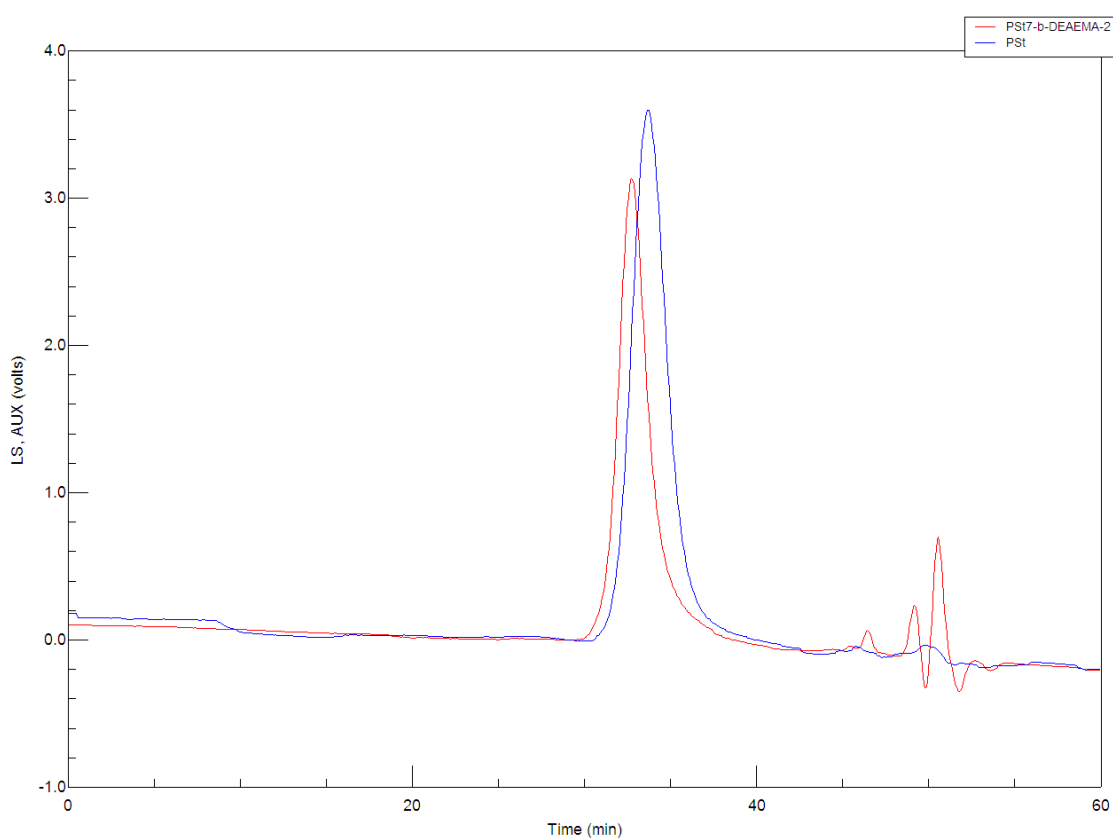


Fig. S1 GPC traces of block copolymer (red line) and the PS macro-CTA (blue line) used in its synthesis by RAFT

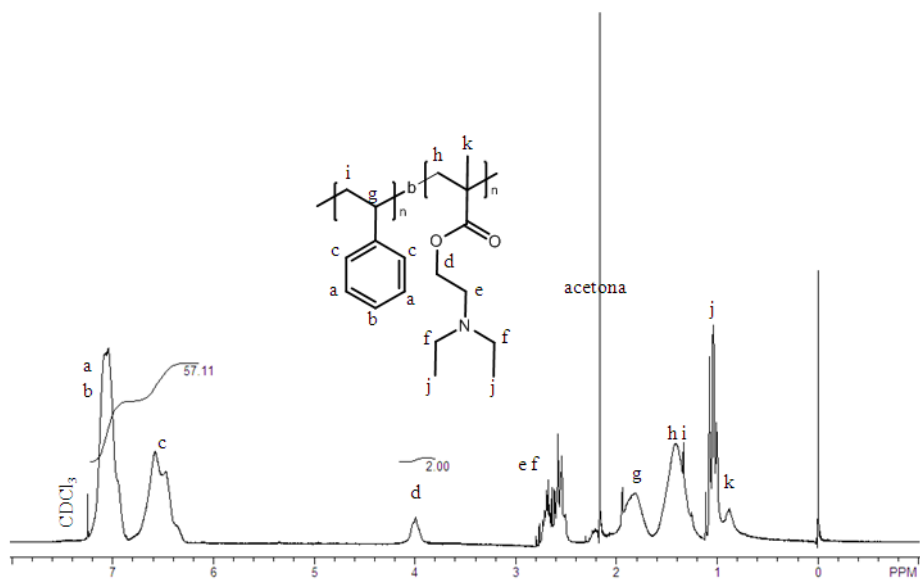


Fig. S2 ¹H-NMR Spectrum of block copolymer.

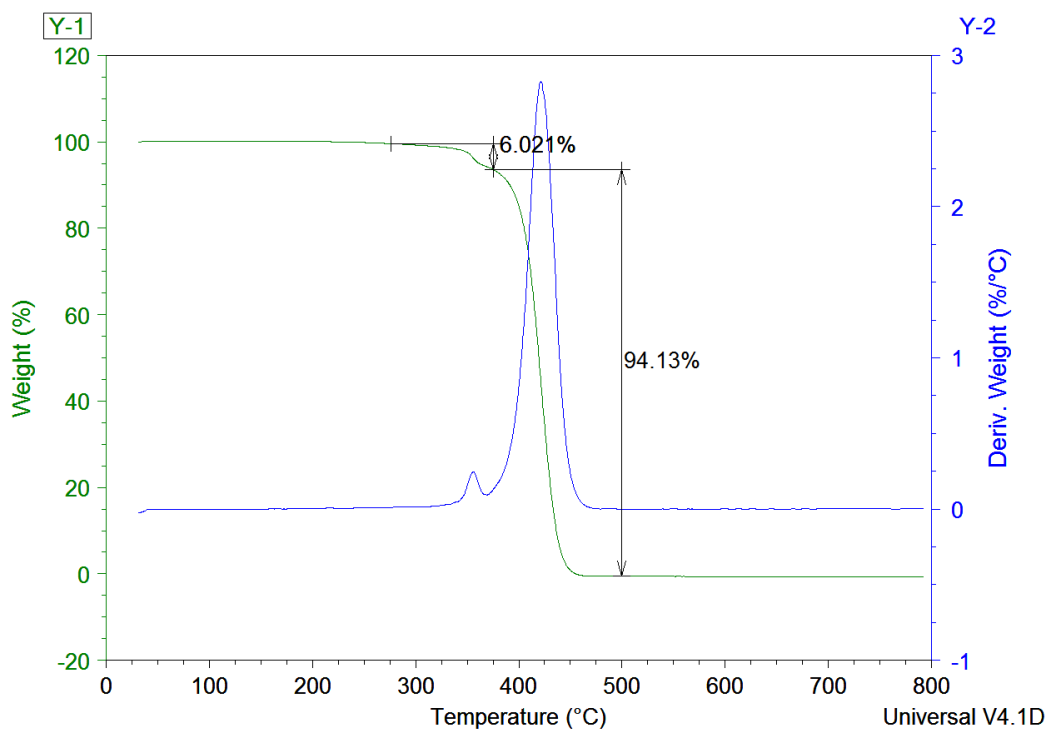


Fig. S3 TGA-Thermogram of block copolymer.

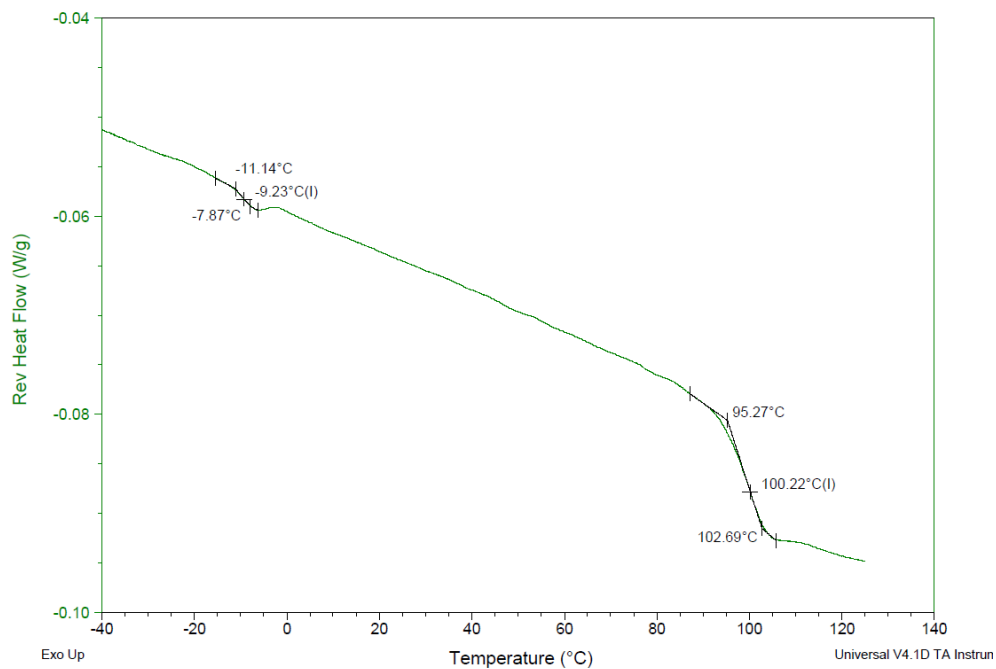


Fig. S4 DSC-Thermogram of block copolymer.

Characterization of Block copolymer PS₆₀-*b*-PDEAEM₄₀ (M_n=76,280 g/Mol, PDI= 1.15)

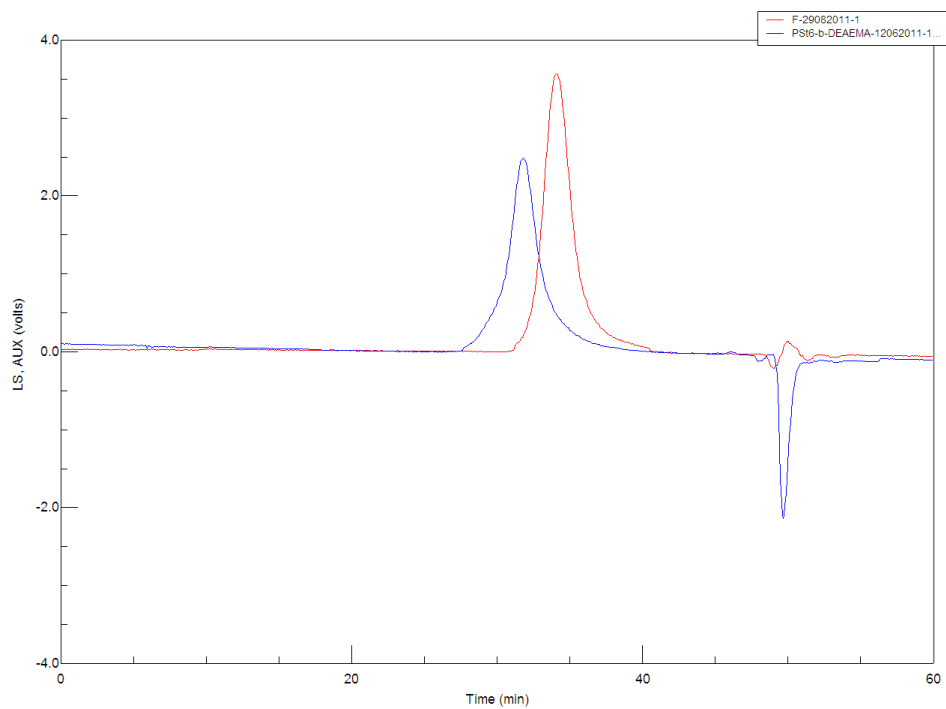


Fig. S5 GPC traces of block copolymer (blue line) and the PS macro-CTA (red line) used in it's synthesis by RAFT

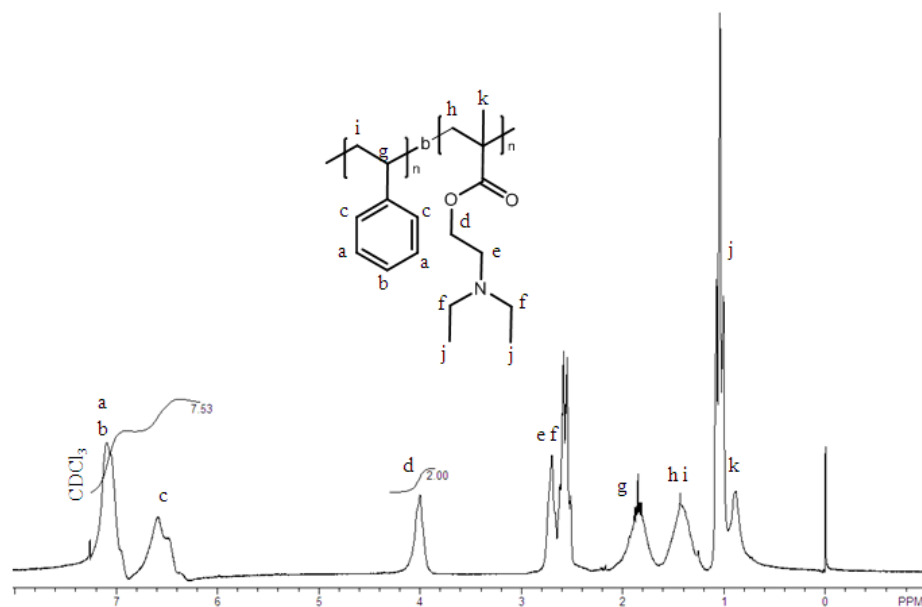


Fig. S6 ¹H-NMR Spectrum of block copolymer.

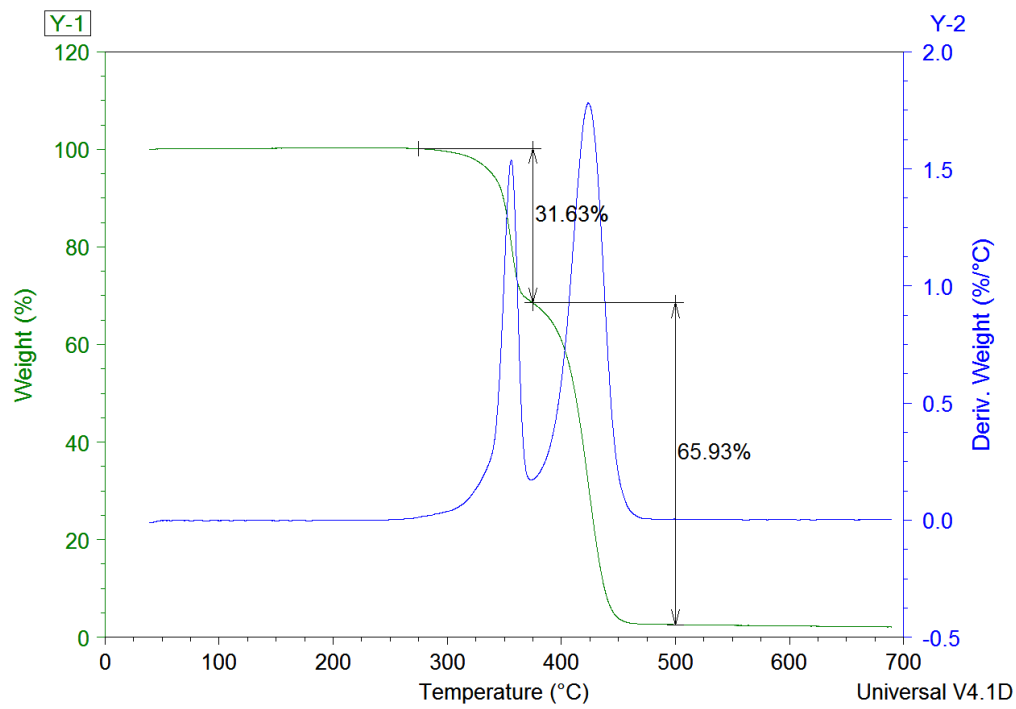
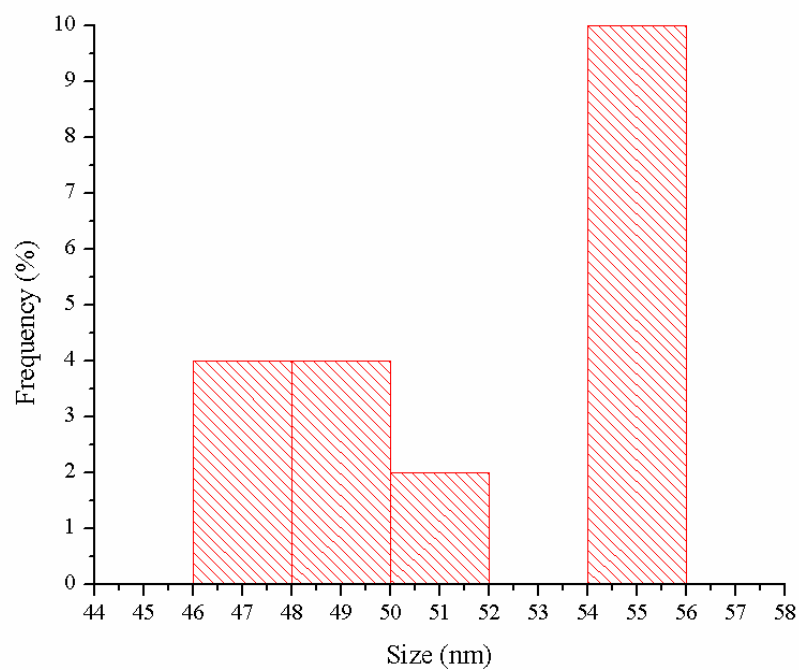
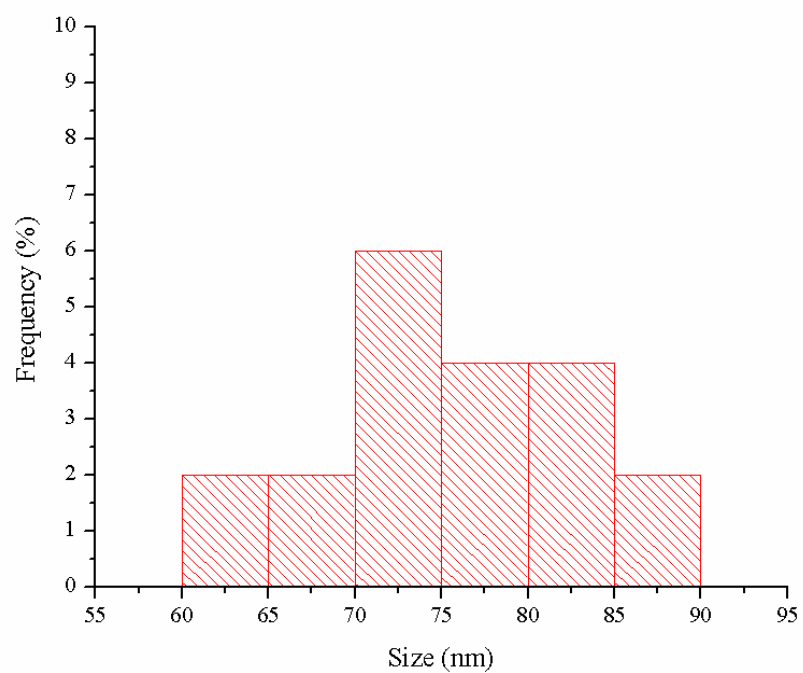


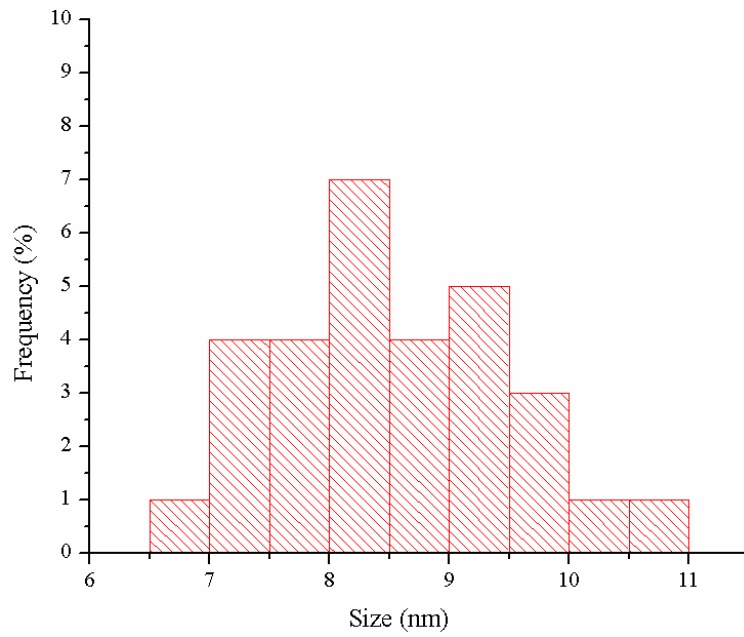
Fig. S7 TGA-Thermogram of block copolymer.



FigS8 Statistics of lamella thickness (bright yellow). From AFM image in Figure 8A.



FigS9 Statistics of interlamellar distance. From AFM image in Figure 8A.



FigS10 Statistics of lamella thickness (pale grey). From STEM image in Figure 8B.

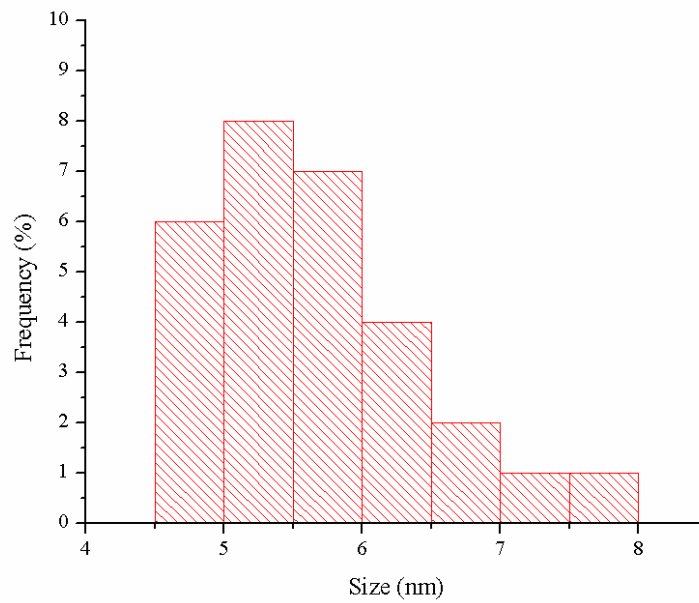
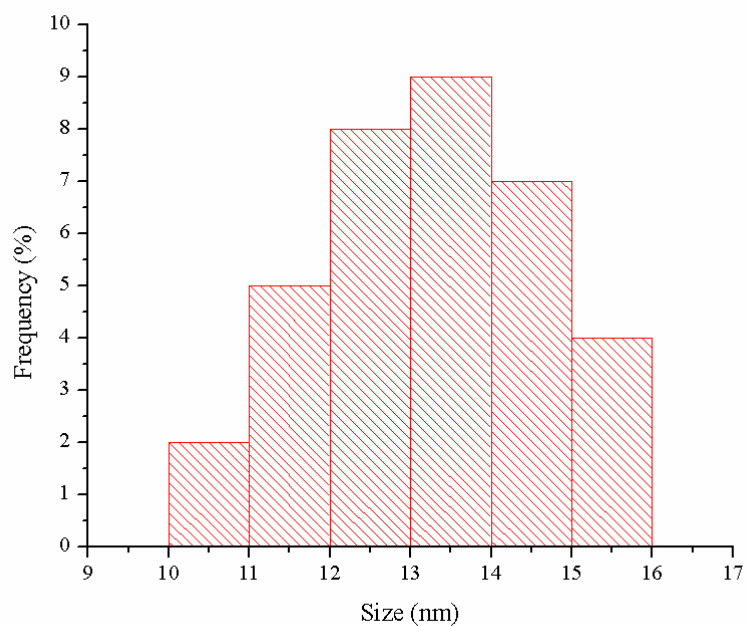
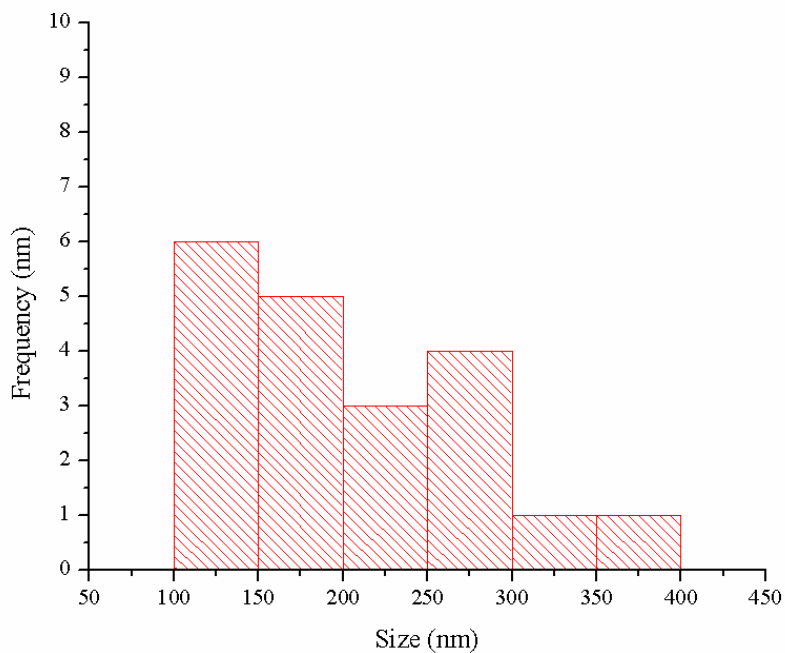


Fig.S11 Statistics of lamella thickness (dark grey). From STEM image in Figure 8B.



FigS12 Statistics of interlamellar distance. From STEM image of Figure 8B.



FigS13 Statistics of nanoflake sizes. From AFM image of Figure 9C.

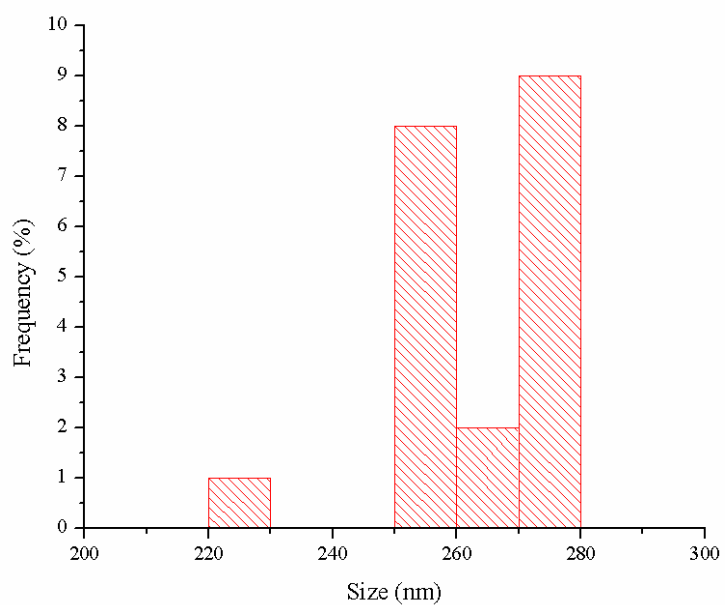


Fig.S14 Statistics of micellar sizes. From AFM image of Figure 12A.

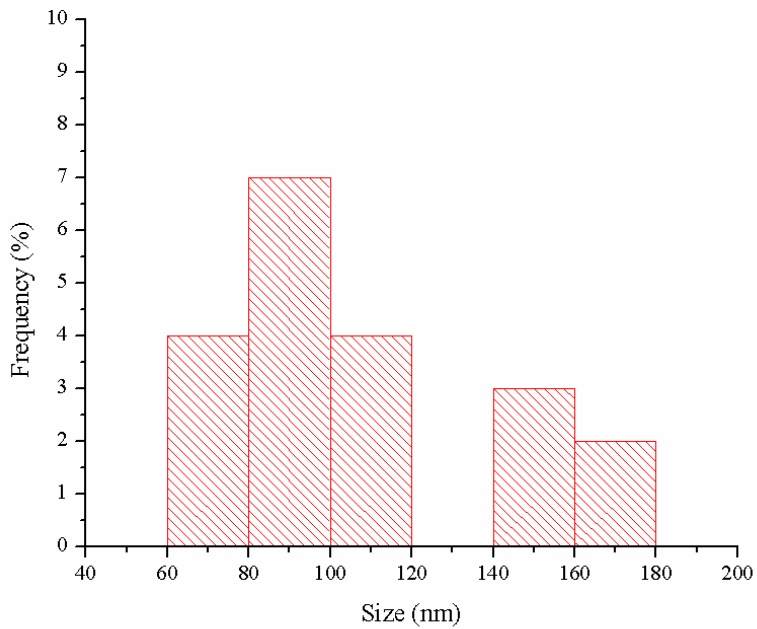


Fig.S15 Statistics of core sizes. From AFM image of Figure 12A.

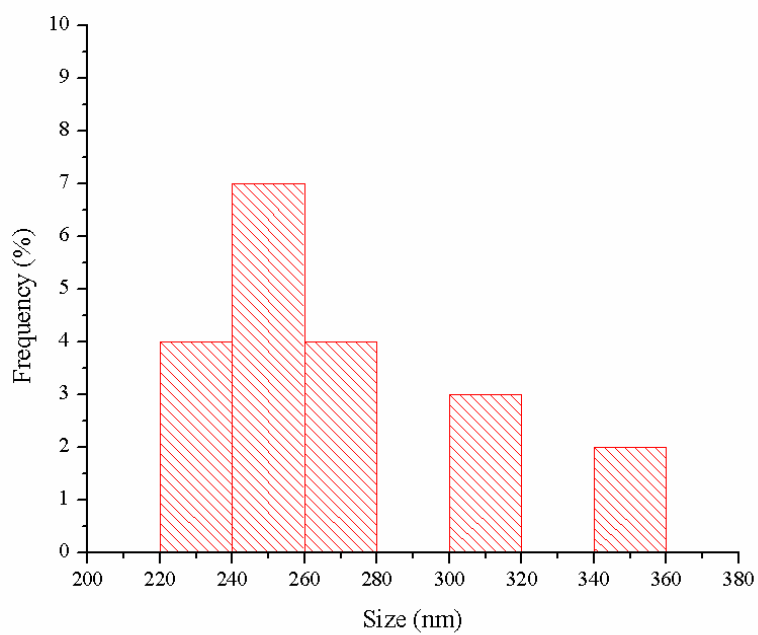


Fig.S16 Statistics of micellar sizes. From AFM image of Figure 13C.

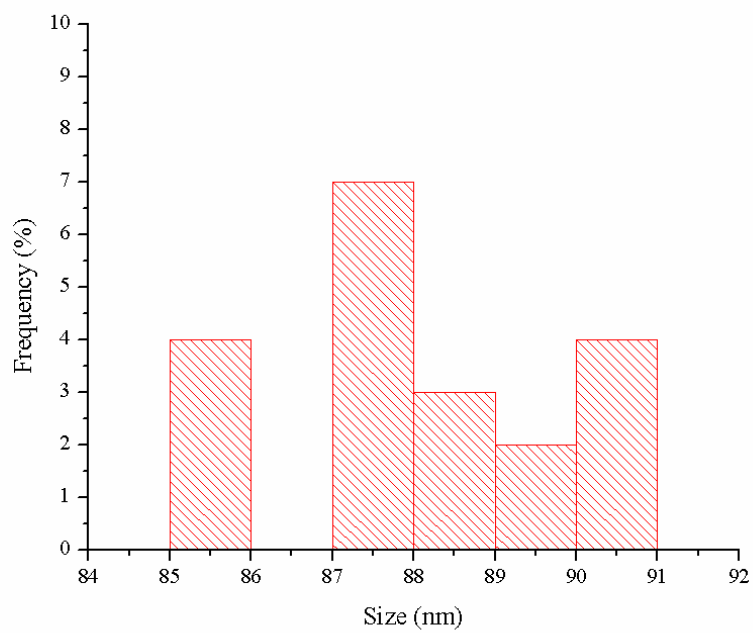


Fig.S17 Statistics of core sizes. From AFM image of Figure 13C.

Additional AFM Images

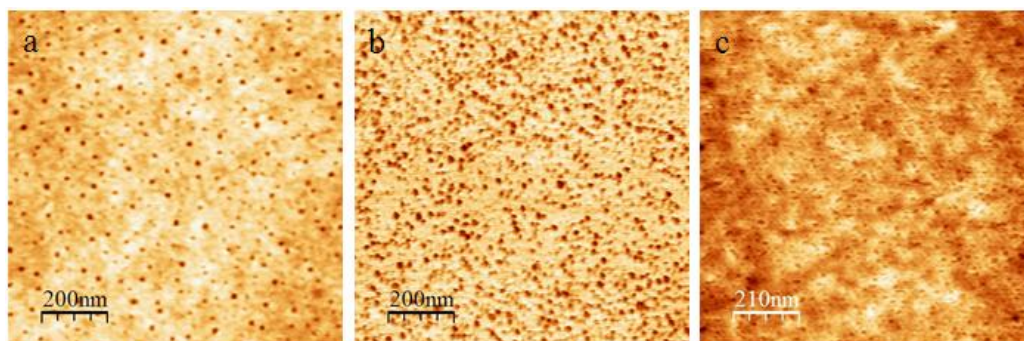


Fig. S18 AFM topographic images obtained using the intermittent contact mode, of PSt₉₁-*b*-PDEAEM₉ thin films prepared from a 1 % w/w toluene solution over mica substrate as a function of spinning coating velocity: **(a)** 2000 rpm; **(b)** 5000 rpm; and **(c)** 8000 rpm.

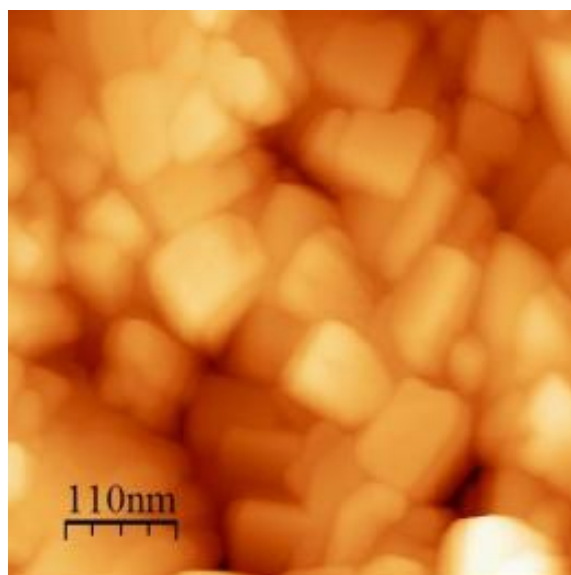


Fig.S19. AFM topographic image obtained using the intermittent contact mode, of PSt₆₀-*b*-PDEAEM₄₀ thin films prepared from a 1 % w/w toluene solution over mica substrate at a spinning velocity of 2000 rpm after thermal annealing in vacuum (10 torr, 170 °C) for 120 h; expansion of Figure 9(b).