

Supporting information

A Versatile Approach to Different Colored Photonic Films Generated from Block Copolymers and Their Conversion into Polymer-Grafted Nanoplatelets

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Fig. S11 ^1H NMR (CDCl_3 , 400MHz) of PTEPM₃₉₀-*b*-PTEPM₃₅₃ block copolymer

Fig. S12 GPC curves of PTEPM₃₉₀ and PTEPM₃₉₀-*b*-PSMA₃₅₃

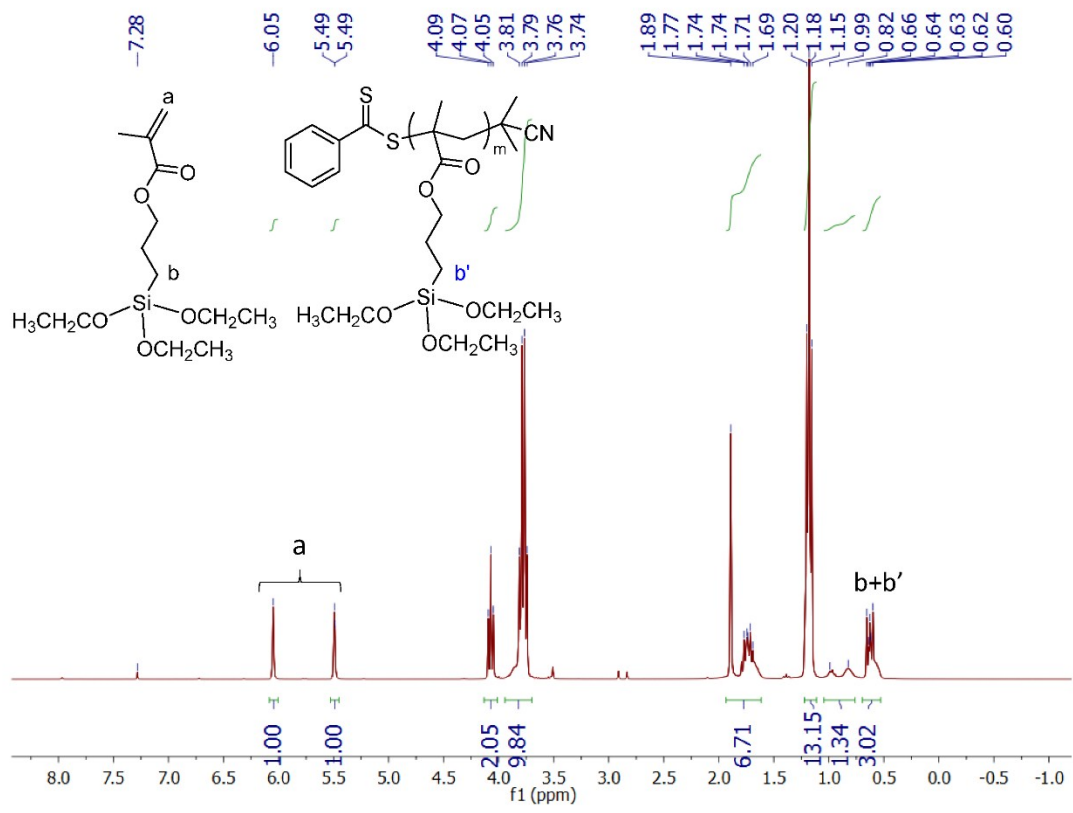


Fig. S1 ^1H NMR (CDCl_3 , 300MHz) of PTEPM₆₆₆ polymer solution

The monomer conversion p was calculated by:

$$p = \frac{I(b + b') - I(a)}{I(b + b')}, \text{ I is the integration of peak}$$

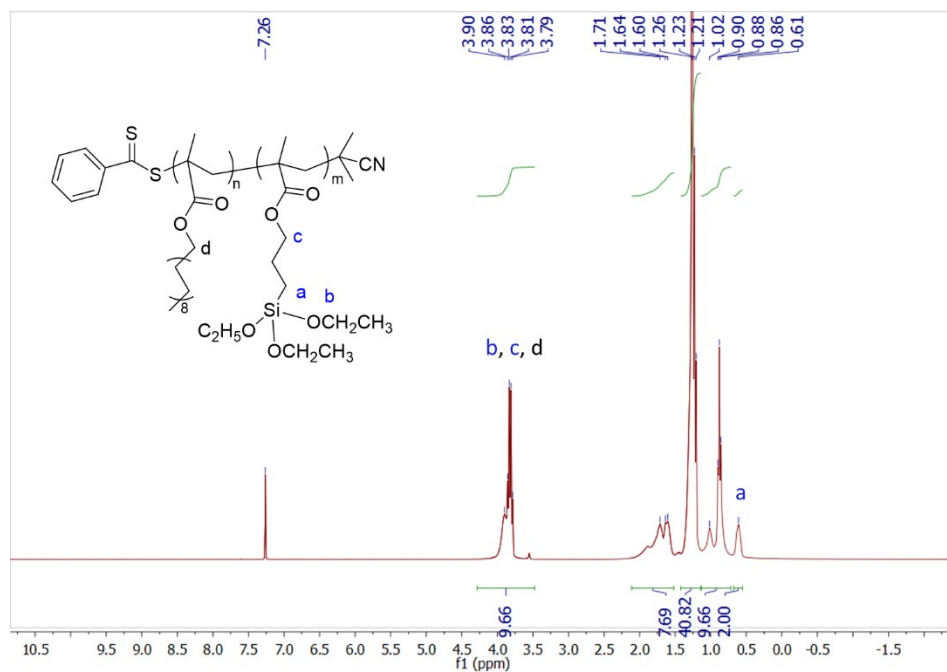


Fig. S2 ^1H NMR (CDCl_3 , 300M) of $\text{PTEPM}_{666}\text{-}b\text{-PTEPM}_{553}$ block copolymer

The ratio of degree of polymerization (DP) of TEPM (m) and DP of SMA (n) can be calculated by:

$$\frac{m}{n} = \frac{I(a)}{I(b,c,d) - 4I(a)}, \text{ I is the integration of peak}$$

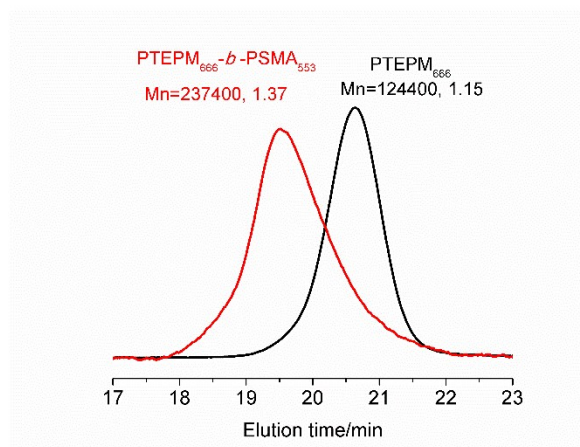


Fig. S3 GPC curves of PTEPM_{666} and $\text{PTEPM}_{666}\text{-}b\text{-PSMA}_{553}$

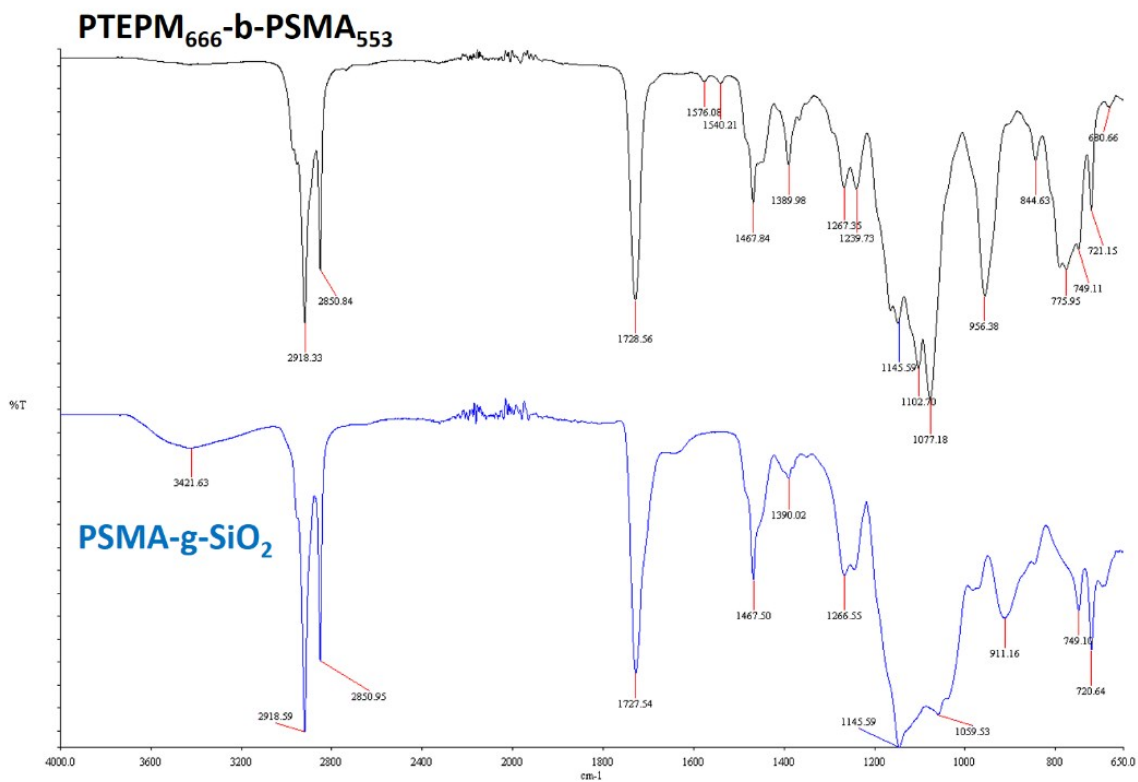


Fig. S4 FT-IR spectra of PTEPM₆₆₆-b-PSMA₅₅₃ and PSMA₅₅₃-g-SiO₂

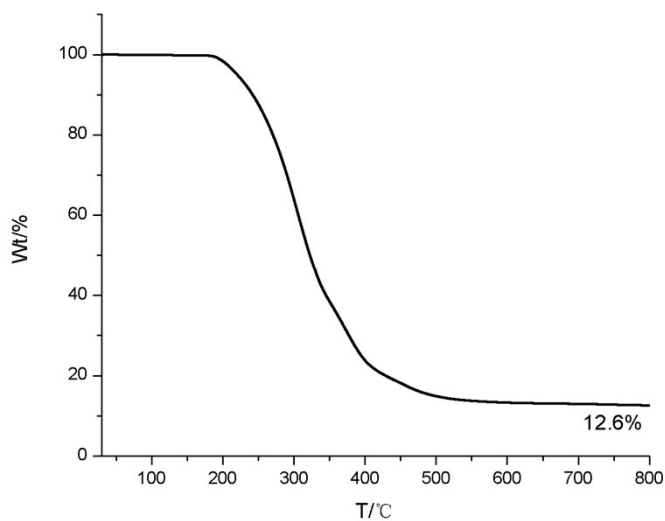


Fig. S5 TGA of PSMA₅₅₃-g-SiO₂

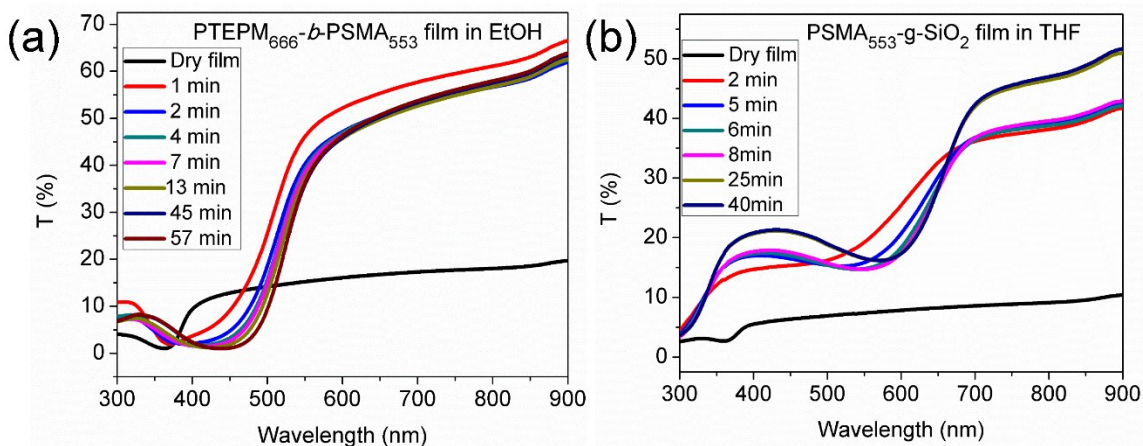


Fig. S6 Transmission spectra of films immersed in solvents with different time. (a) PTEPM₃₉₀-*b*-PSMA₅₅₃ film in EtOH; (b) PSMA₃₅₃-*g*-SiO₂ film in THF.

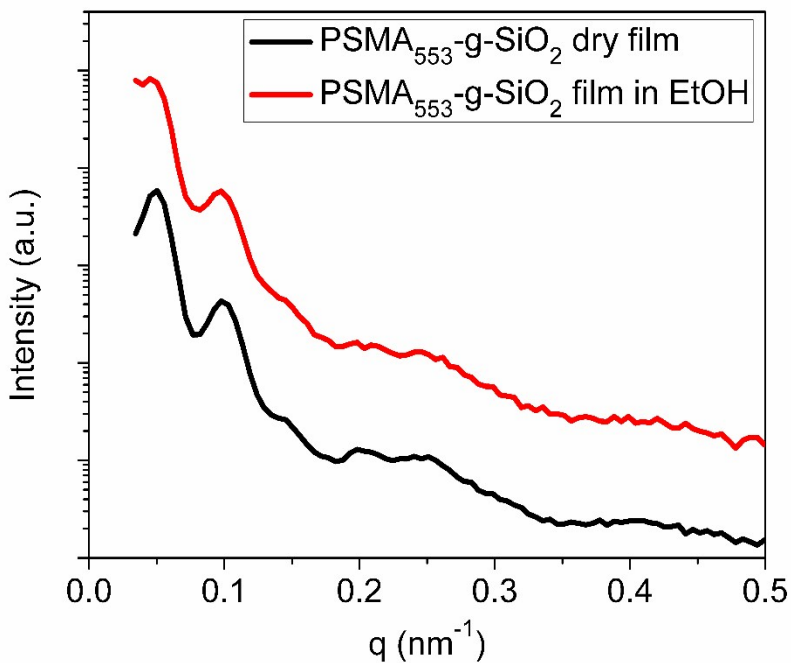


Fig. S7 ESAXS of PSMA₅₅₃-*g*-SiO₂ dry film and film in ethanol.

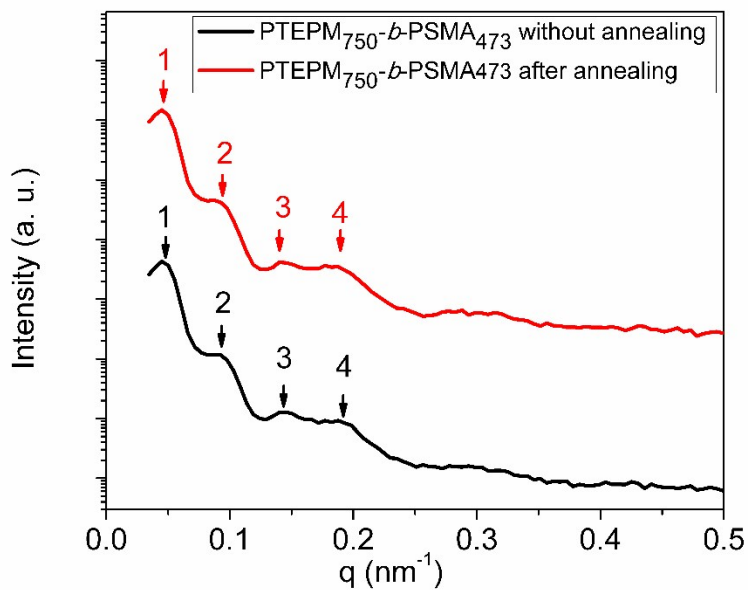


Fig. S8 ESAXS of PSMA₇₅₀-*b*-PSMA₄₇₃ film formed by rapid THF evaporation before and after thermal annealing.

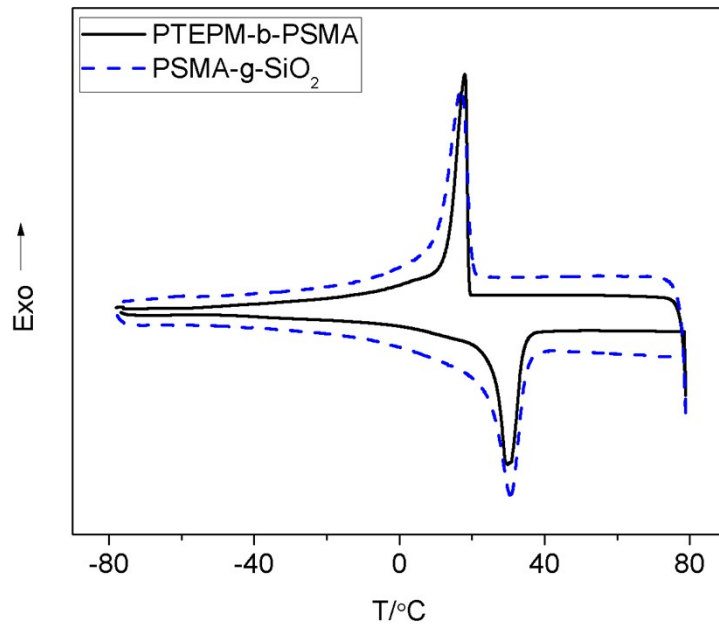


Fig. S9 DSC PTEPM₆₆₆-*b*-PSMA₅₅₃ and PSMA₅₅₃-*g*-SiO₂

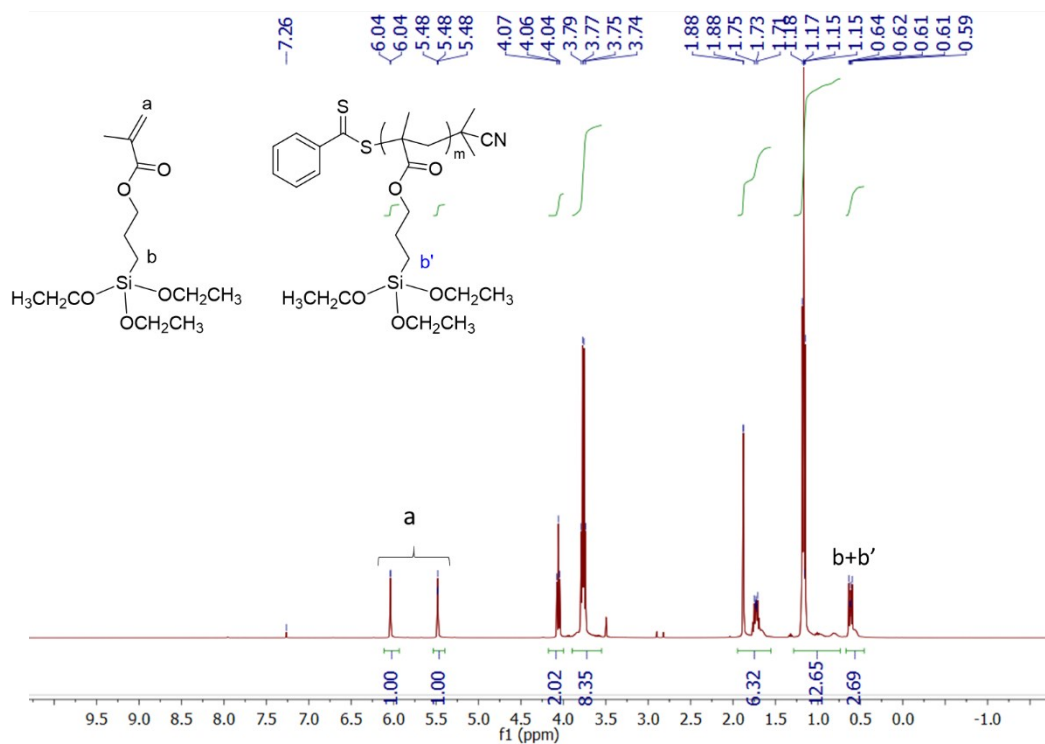


Fig. S10 ¹H NMR (CDCl₃, 400MHz) of PTEPM₃₉₀ polymer solution

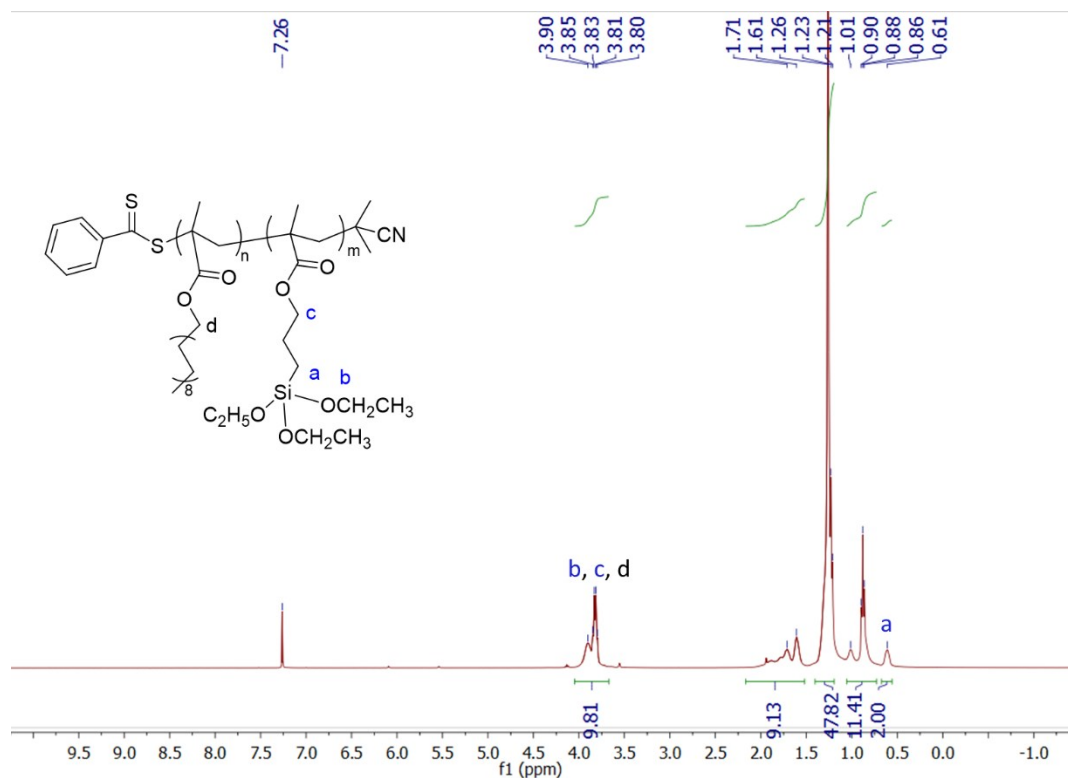


Fig. S11 ¹H NMR (CDCl₃, 400MHz) of PTEPM₃₉₀-*b*-PTEPM₃₅₃ block copolymer

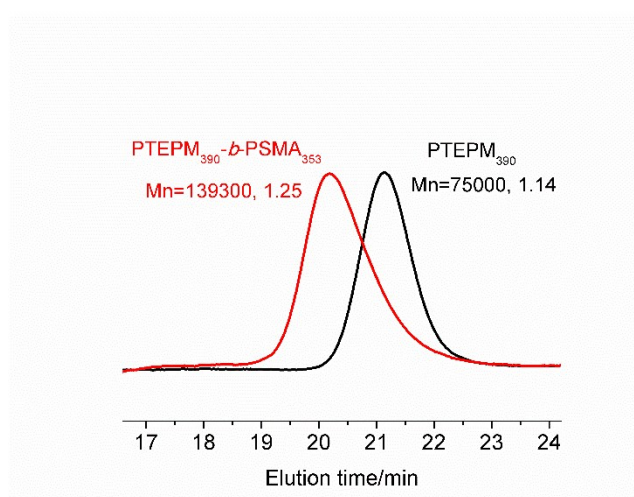


Fig. S12 GPC curves of PTEPM₃₉₀ and PTEPM₃₉₀-*b*-PSMA₃₅₃