Supplementary Information for:

Surface Dynamics of Poly (Methyl methacrylate) Chains Affected by Concentration of Casting Solution

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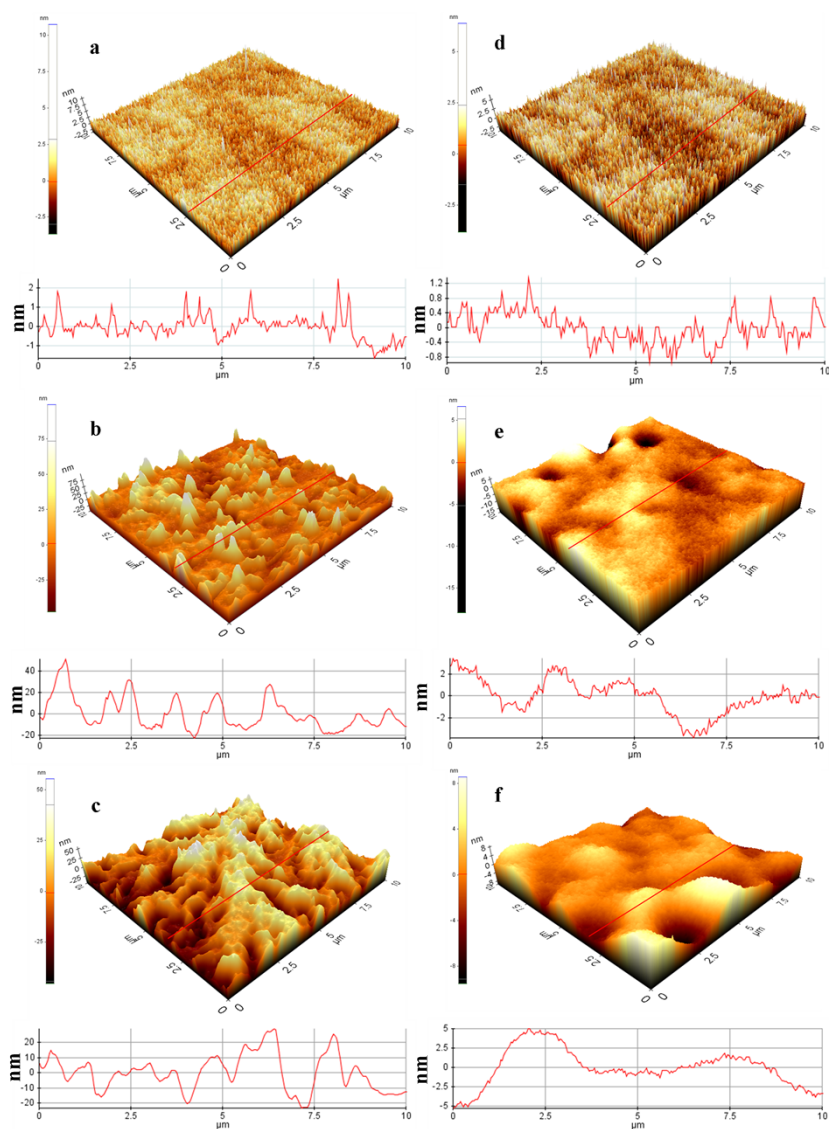
Fig. S1 AFM topography images of PMMA$_{430}$-ec-PFMA$_2$ spin-coated films before (a,b,c) and after annealing at 120℃(d,e,f). (a) prepared from the PMMA$_{430}$-ec-PFMA$_2$ cyclohexanone solution. (b) and (c) prepared from the PMMA$_{430}$-ec-PFMA$_2$ solutions with mixed solvent, the volume ratio of cyclohexanone and ethanol were 9:1 and 6:4 respectively (concentration:3.5%).
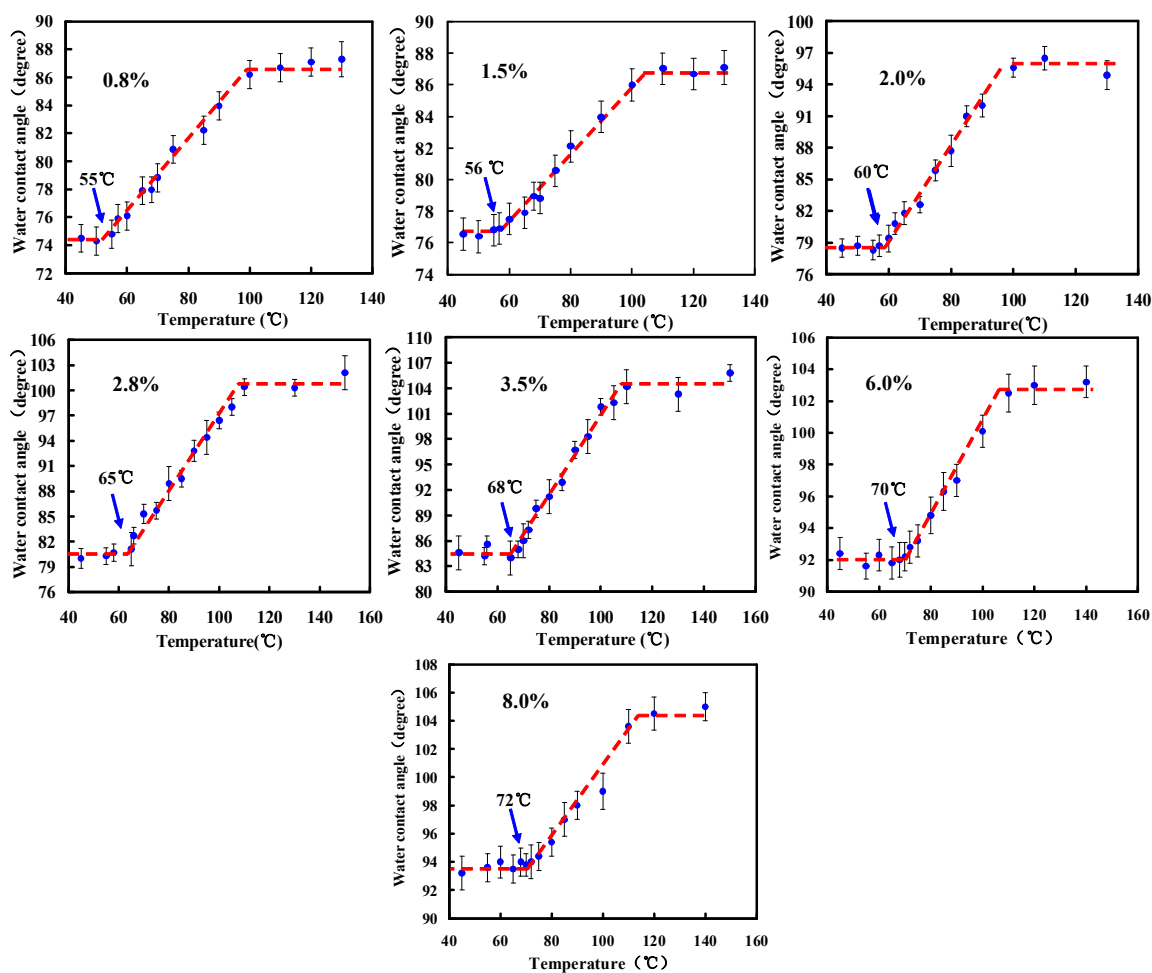
Fig. S2 Water contact angle of spin-coated PMMA$_{430}$-ec-PFMA$_2$ films prepared from different concentration (wt%) of casting solutions as a function of annealing temperature. Annealing time: 24 h. The dotted line is a guide to the eye.
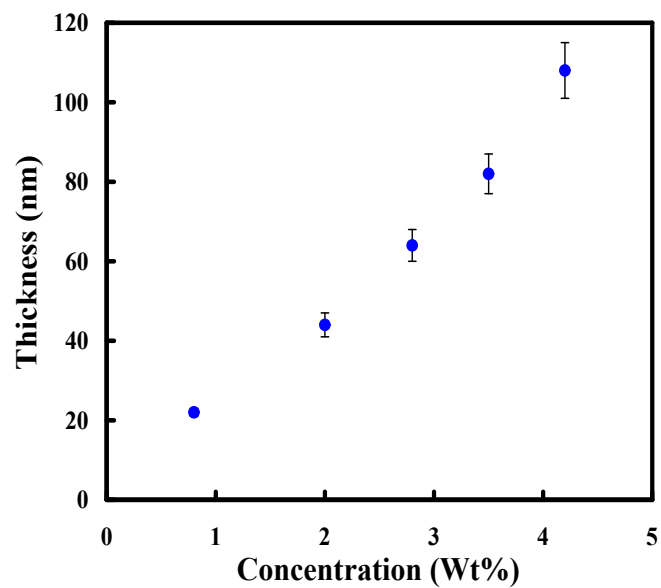
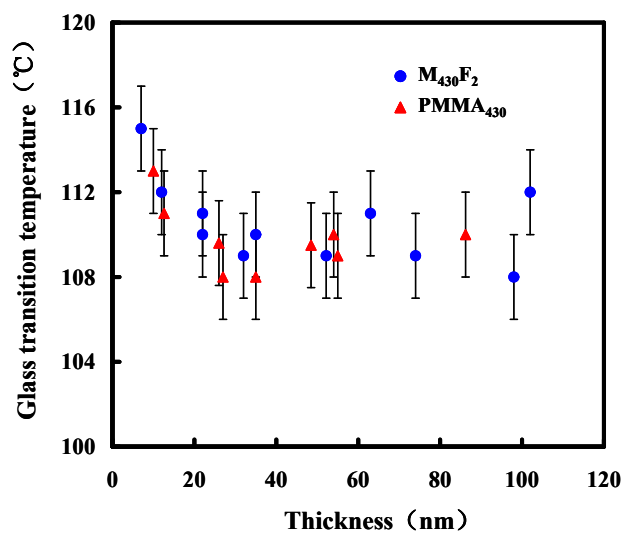**Fig. S3** The films thickness vs the concentration of casting solutions.

Fig.S4 Measured glass transition temperature (T_g) vs film thickness for PMMA$_{430}$-ec-PFMA$_2$ films (solid circles) and PMMA$_{430}$ films (triangles) by ellipsometry.
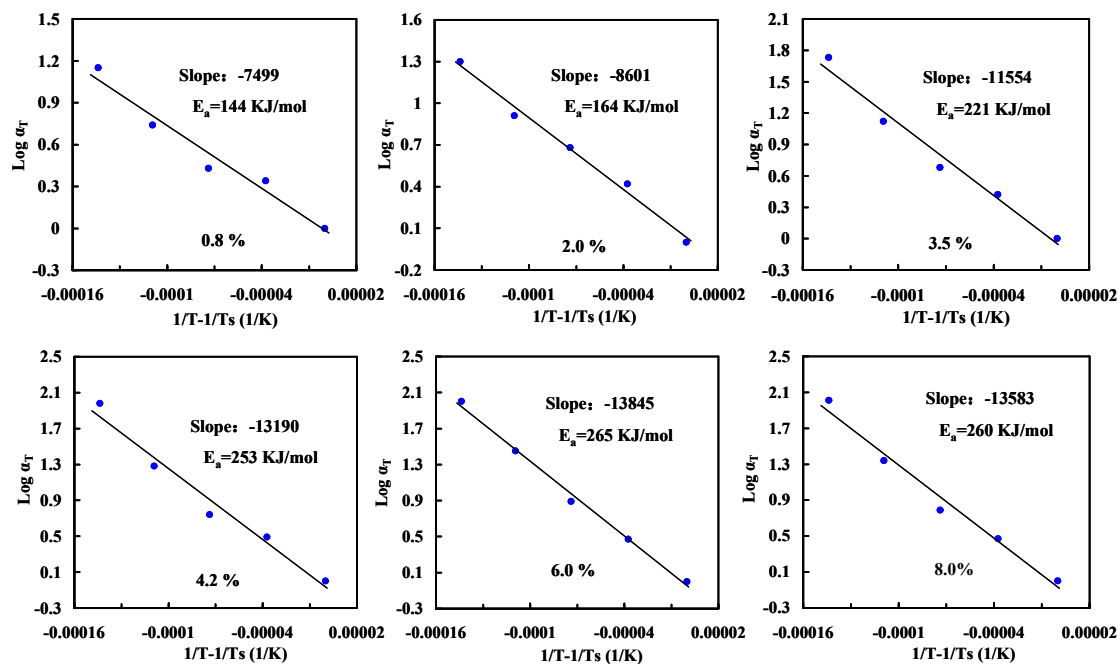
Fig. S5 Arrhenius plots of α_T vs. temperature for PMMA$_{430}$-ec-PFMA$_2$ films prepared from various concentrations of casting solutions. The solid line is linear least-squares fits by a modified Arrhenius equation described in Eq. 1 to the data with a slope for elucidating the activation energy.