

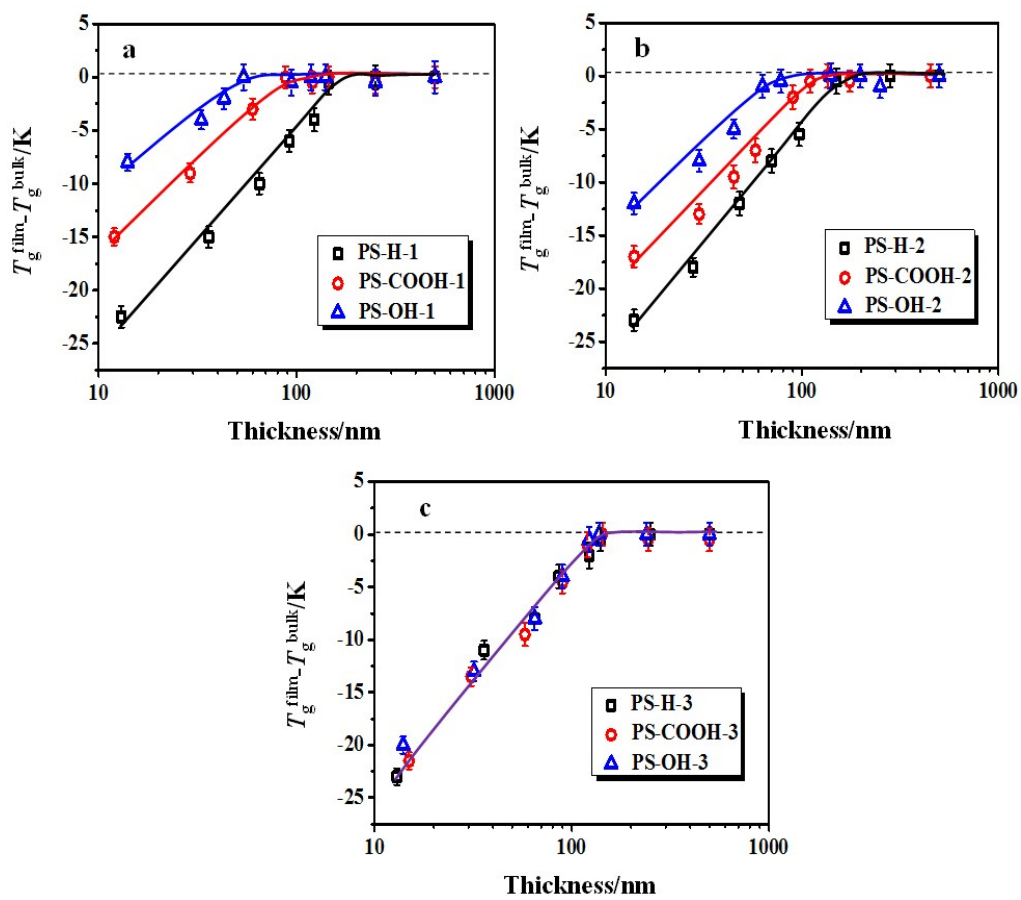
*Supporting information for:*

## Architectures of the Adsorbed Layer at a Substrate Interface Determines the Glass Transition of Supported Ultrathin Polystyrene Films

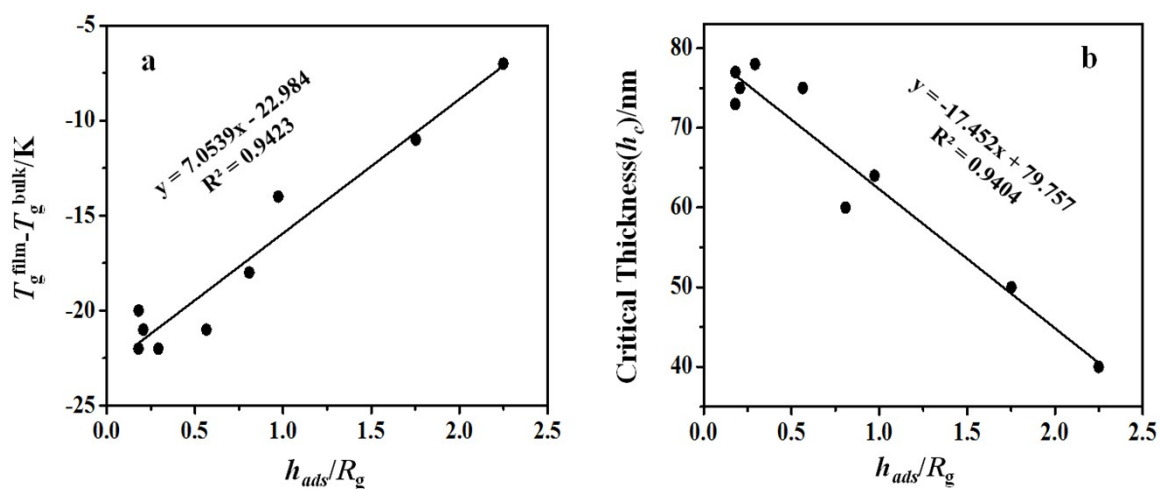
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**Fig. S1**  $T_g^{\text{film}} - T_g^{\text{bulk}}$  vs thickness for thin films of PS with various chain end groups when the molecular weights were similar measured by dynamic wetting method.



**Fig. S2**  $T_g^{film} - T_g^{bulk}$  (film thickness:  $15 \pm 1$  nm) (a) and critical thickness  $h_c$  (b) plotted as a function of  $h_{ads}/R_g$  for various PS films supported on SiO<sub>2</sub>-Si substrate.  $T_g$  of thin PS film was obtained by ellipsometry.

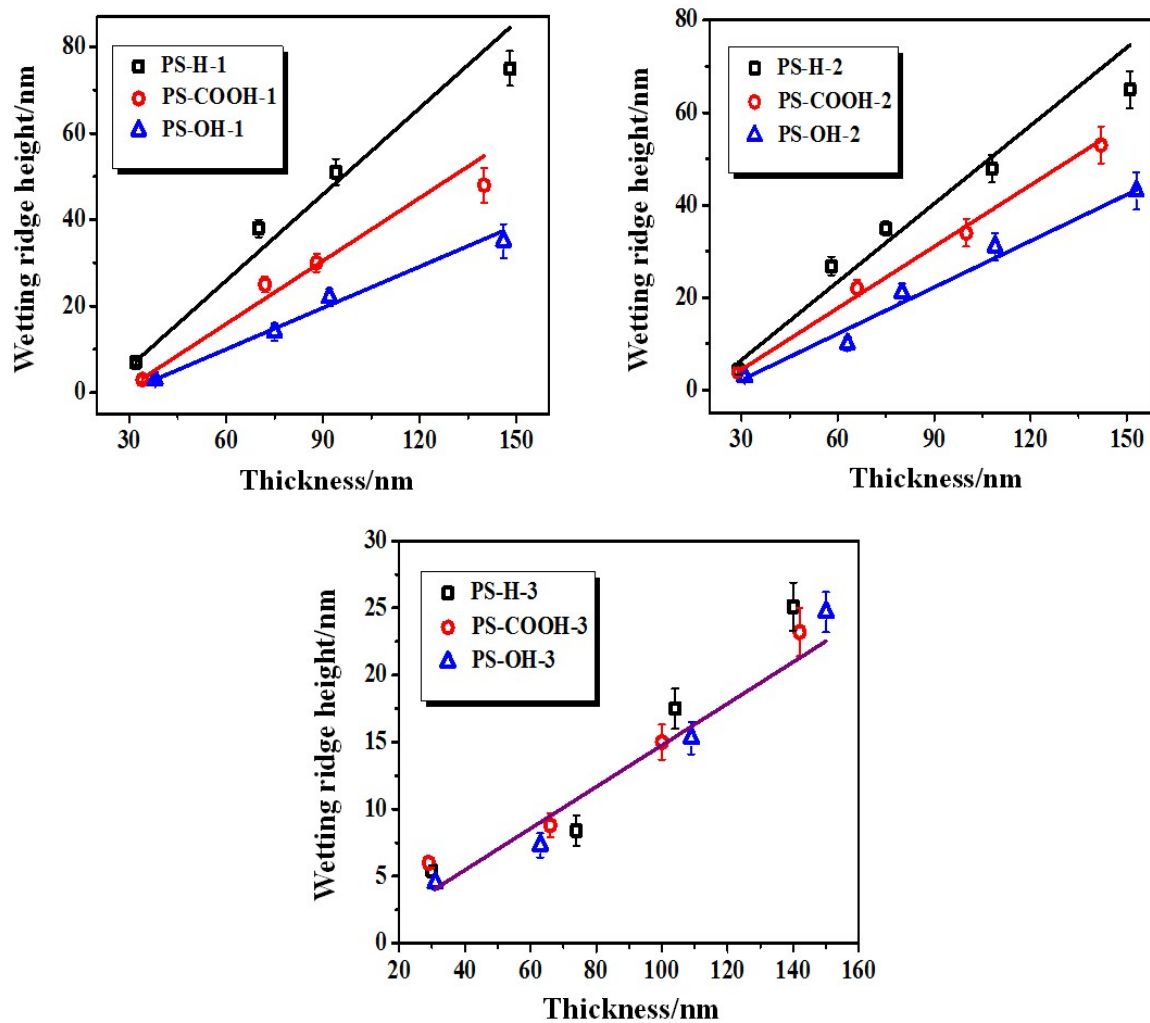
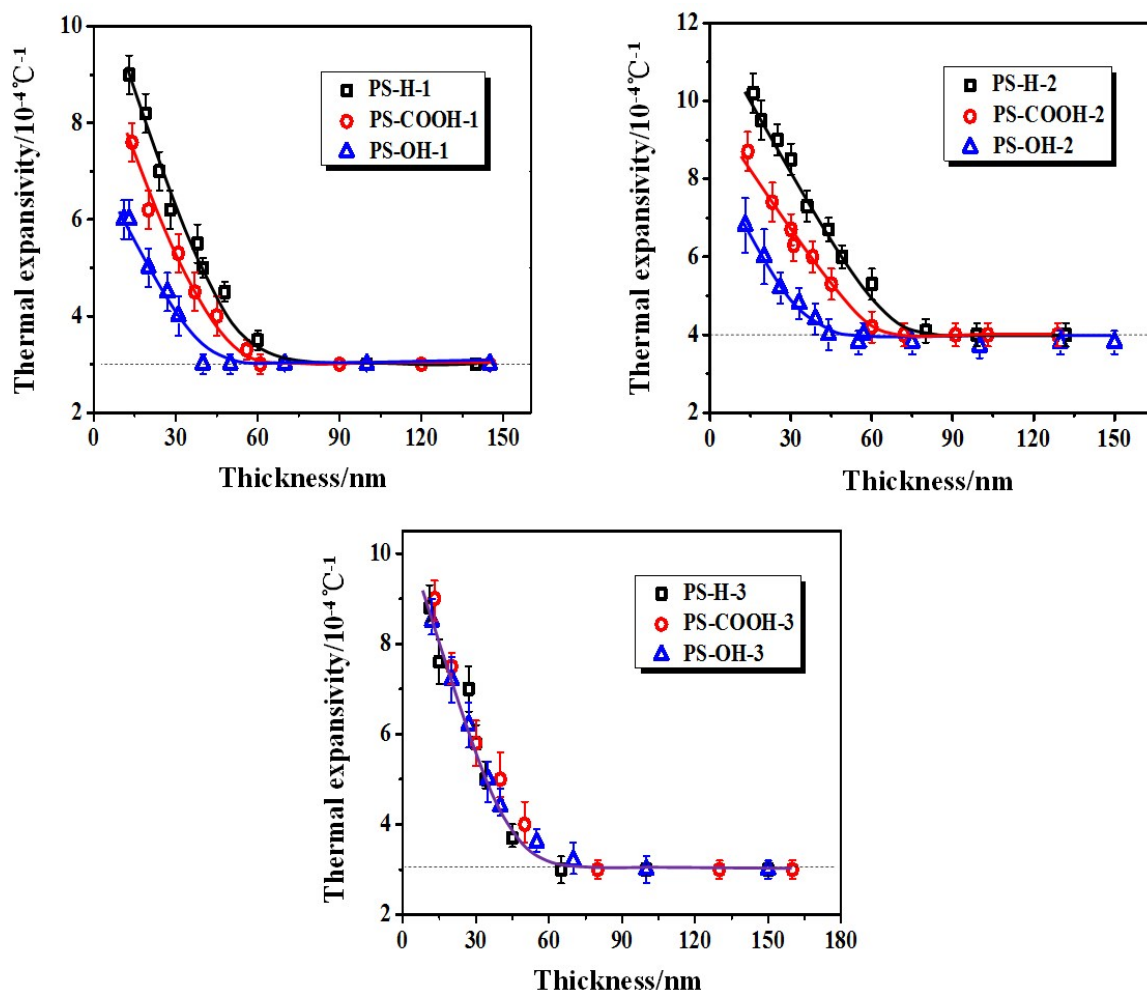


Fig. S3 Wetting ridge height plotted as a function of end-functional PS film thickness.



**Fig. S4** Thermal expansion coefficient (above  $T_g$ ) as a function of film thickness for various end-functional PS films measured by ellipsometry.