Electronic Supporting Information for *Soft Matter*

Exploring the kinetics of switchable polymer surfaces with dynamic tensiometry

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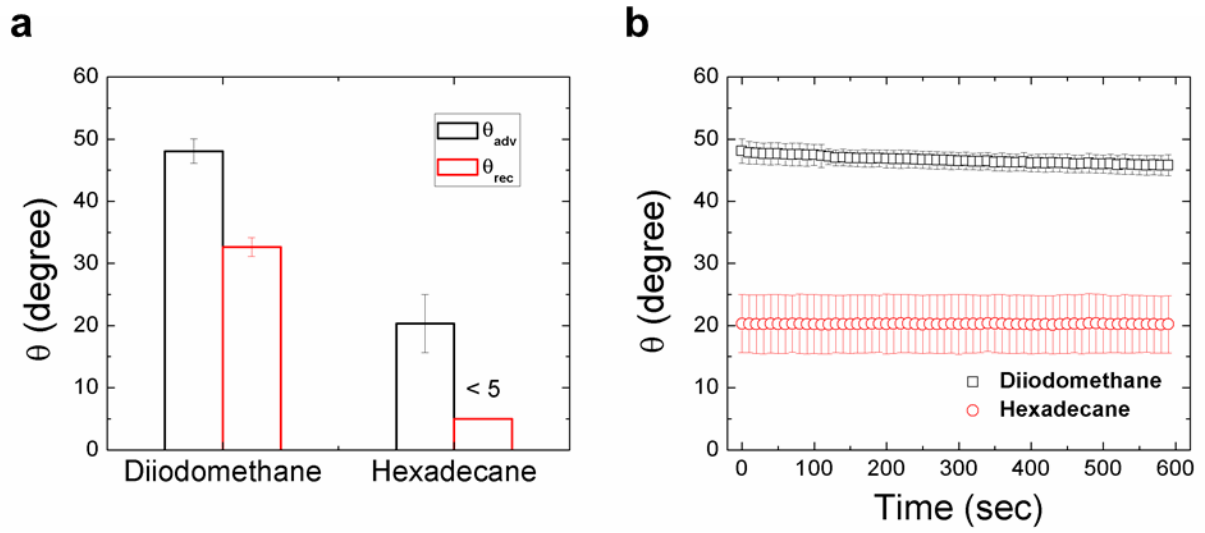

Figure S1. a. Advancing and receding contact angle of diiodomethane (DM) and hexadecane (HD) on PEG-functionalized PVA/PAA multilayer film. **b.** Transient contact angle measurements probed with DM and HD for PEG-functionalized PVA/PAA multilayer film.

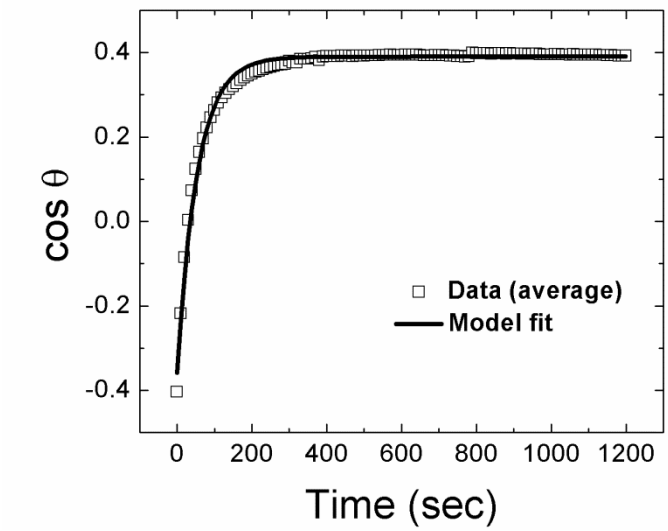

Figure S2. Time dependence of the contact angle with water in cos θ for PEG-functionalized PVA/PAA multilayer film at room temperature (22 ± 1 °C) with the effects of evaporation

removed. Open boxes represent individual data points averaged every 10 sec while the bold line represents the model fit.

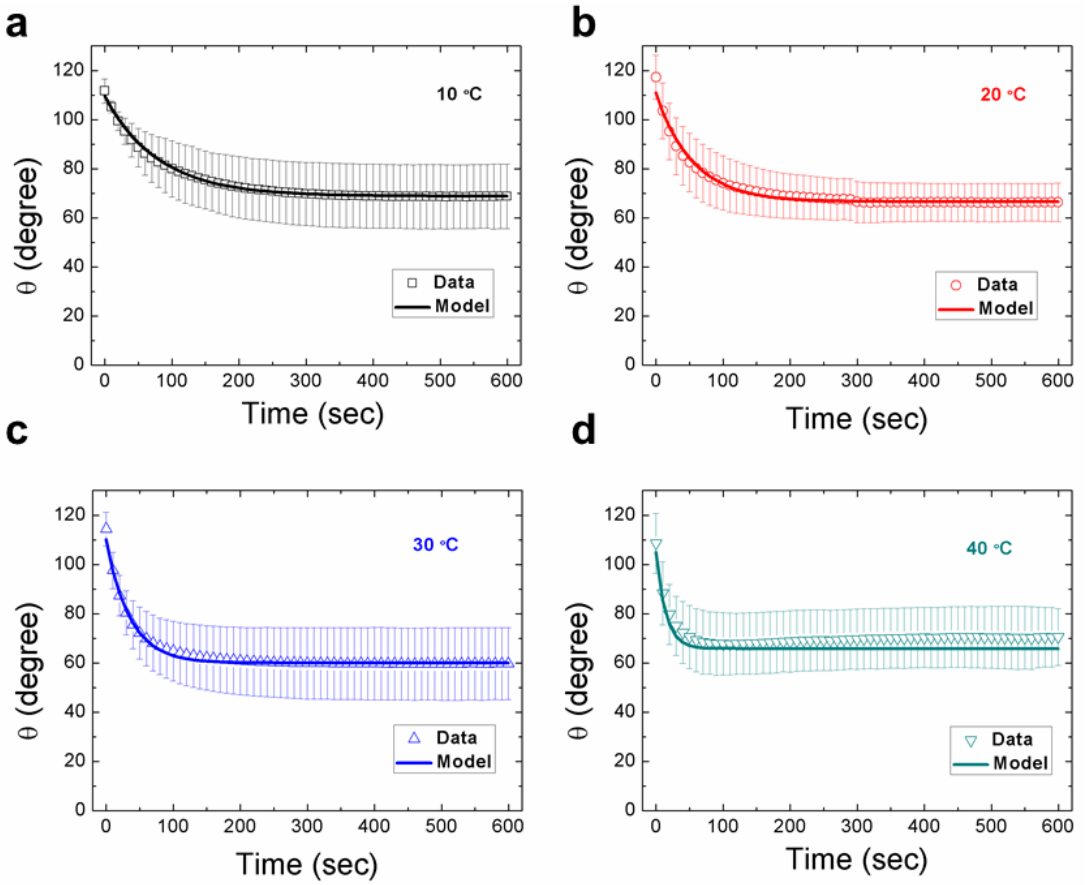

Figure S3. Time dependence of the contact angle with water θ for PEG-functionalized PVA/PAA multilayer film at **a.** T = 10˚C, **b.** T = 20˚C, **c.** T = 30˚C, **d.** T = 40 ˚C with the effects of evaporation removed. Open boxes, circles, and triangles represent individual data points averaged every 10 sec while the bold line represents the model fit.

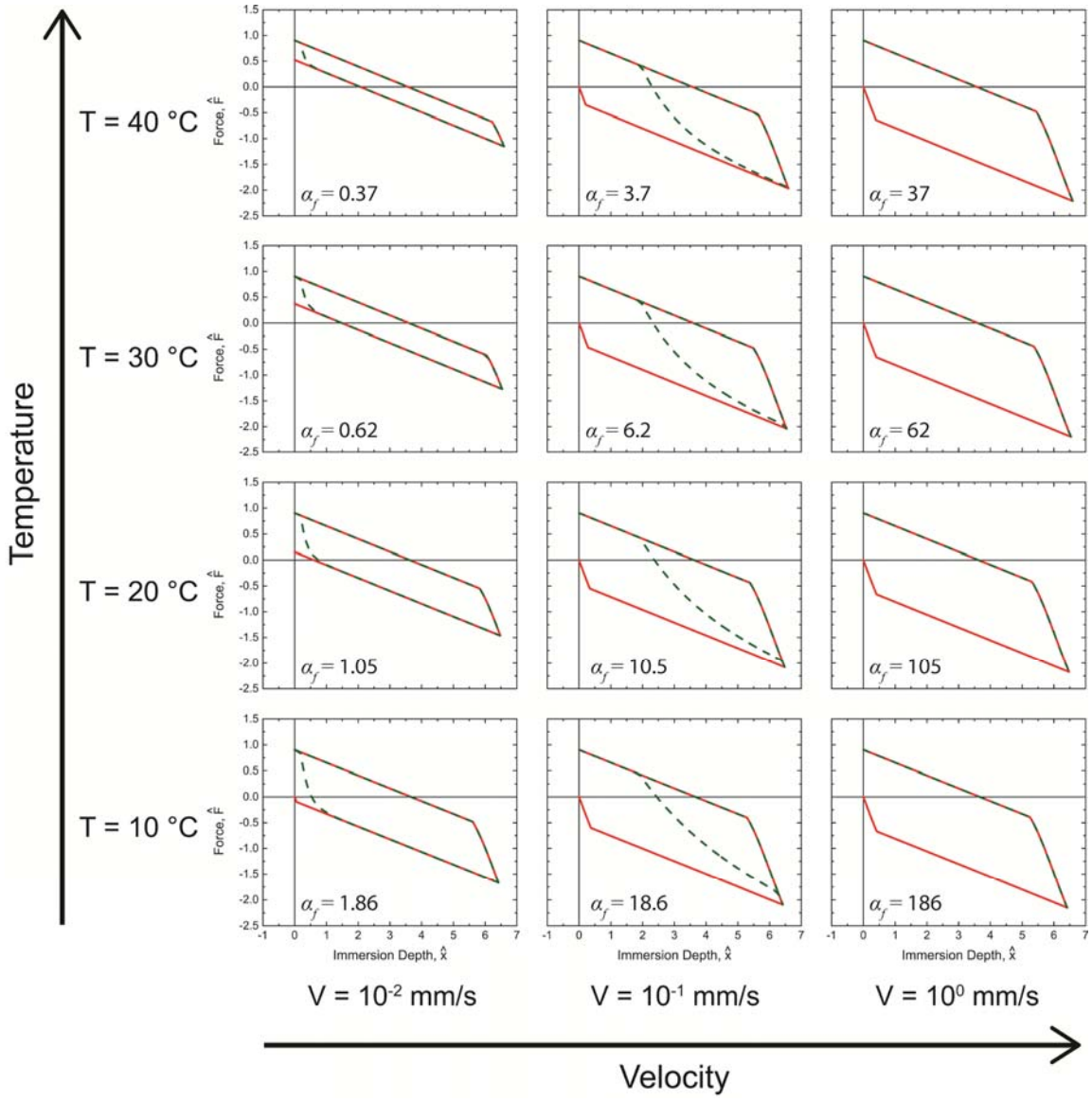

Figure S4. The complete set of model results plotted analogous to Figure 5.

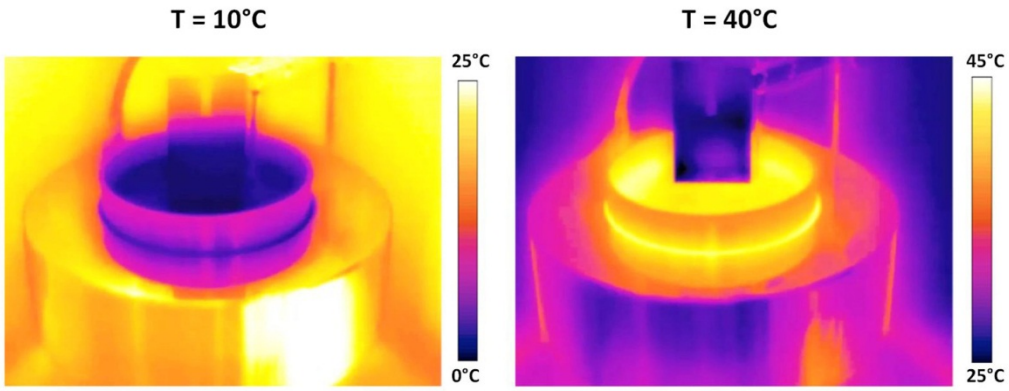

Figure S5. IR thermal imaging of the films during the tensiometer experiment.