## **Supporting Information**

## Fabrication of Active Surfaces with Metastable Microgel Layers Formed during Breath Figure Templating

Yuchen Zhou,  $^{\dagger,\ddagger}$  Junjie Huang,  $^{\dagger,\ddagger}$  Wei Sun,  $^{\star,\ddagger}$  Yuanlai Ju,  $^{\dagger,\ddagger}$  Pinghui Yang,  $^{\dagger,\ddagger}$  Lingyun Ding,  $^{\dagger,\ddagger}$  Zhong-Ren Chen,  $^{\dagger,\ddagger}$  and Julia A. Kornfield\*§

<sup>†</sup>Department of Materials Science and Engineering, School of Materials Science and Chemical Engineering, Ningbo University, Ningbo, 315211, China

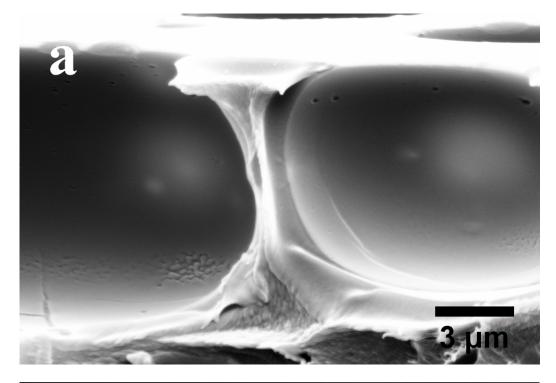
<sup>‡</sup>Key Laboratory of Specialty Polymers, School of Materials Science and Chemical Engineering, Ningbo University, Ningbo, 315211, China

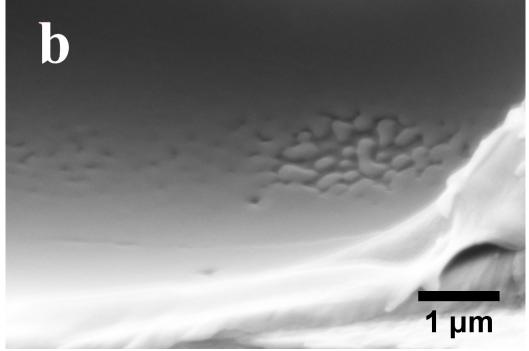
§Department of Chemical Engineering, California Institute of Technology, Pasadena, 91125, United States

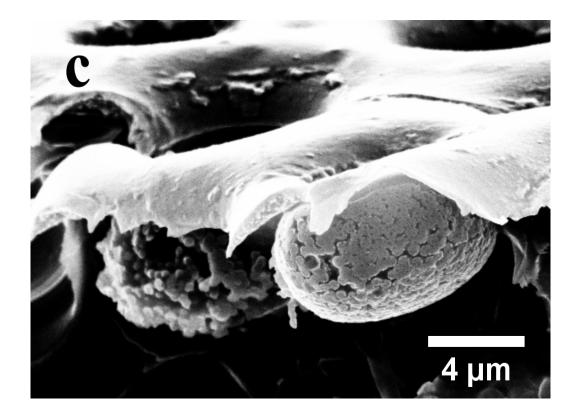
## **Corresponding Author**

\*E-mail for W.S.: sunwei@nbu.edu.cn.

\*E-mail for J.A.K.: jak@cheme.caltech.edu.







**Figure S1.** Cross-sectional SEM images of surfaces (a), (b) show continuously layered morphology with some blurred boundaries of microgels on pores, formed by dense aggregation of PNIPAm-co-AA microgels; after removing PS-COOH matrix (c) around pores, layers of densely aggregated microgels were exposed as self-standing layers. When viewed at higher magnification, a slight undulation of the surface is seen on the inner surface of pores prepared from the mixed solution (a,b). The surface undulations are most pronounced on the floor of the pores, where the interface undergoes the least compression during solvent evaporation.