SUPPORTING INFORMATION

UV-Modulated Substrate Rigidity for Multiscale Study of Mechanoresponsive Cellular Behaviors

Yubing Sun\textsuperscript{1,2}, Liang-Ting Jiang\textsuperscript{1,2}, Ryoji Okada\textsuperscript{1,3}, and Jianping Fu\textsuperscript{1,2,4,*}

\textsuperscript{1}Integrated Biosystems and Biomechanics Laboratory, University of Michigan, Ann Arbor, MI 48109, USA; \textsuperscript{2}Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI 48109, USA; \textsuperscript{3}Department of Aerospace Engineering, University of Michigan, Ann Arbor, MI 48109, USA; \textsuperscript{4}Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI 48109, USA.

*Correspondence should be addressed to J. Fu [J. Fu (email address: jpfu@umich.edu, Tel: 01-734-615-7363, Fax: 01-734-647-7303)].
SUPPORTING SCHEME
Supporting Scheme S1

(a) Benzophenone radical generation

(b) Crosslinker reaction

(c) Monomer reaction

Scheme S1. Benzophenone radical generation mechanism under UV light exposure.
**Figure S1.** Bar plot of Young's modulus $E$ of 1:30 photoPDMS post-exposure baked for 20 min. Tensile testing was performed either right after sample fabrication or after a 6-month storage at room temperature, as indicated. **, $p < 0.01$. NS, statistically not significant ($p > 0.05$).
Supporting Figure S2

Figure S2. Cell proliferation assays on both PDMS and photoPDMS (with 0 min UV exposure) substrates. NIH/3T3 cells were plated at a density of 3,000 cells/cm². (a) Representative images of NIH/3T3 stained with DAPI (blue) after 24, 48, and 96 hr of culture on 1:10 PDMS and photoPDMS (top) and 1:30 PDMS and photoPDMS (bottom) substrates. (b-c) Bar plot showing density of NIH/3T3 cells as a function of culture time. Data represents the means ± s.e.m from 3 independent experiments. NS, statistically not significant ($p > 0.05$).
Supporting Figure S3

**Figure S3.** Fabrication process of photoPDMS micropost array.
**Supporting Figure S4**

**Figure S4.** Phase (top) and fluorescent (bottom) images showing constant surface protein densities on LRMA and LSMA. 50 µg mL⁻¹ Alexa-488 conjugated BSA was printed onto the tops of LRMA and LSMA using microcontact printing.