Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B. This journal is © The Royal Society of Chemistry 2023

# **Supplementary Information**

Cyclic stretch modulates cell morphology transition under geometrical confinement by covalently immobilized gelatin

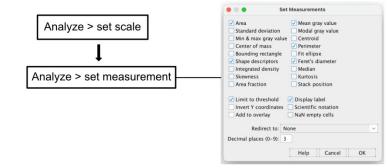
Kun Fang<sup>1,2</sup>, Stefan Müller<sup>3,4</sup>, Motoki Ueda<sup>1,4</sup>, Yasuhiro Nakagawa<sup>2</sup>, Katsuko Furukawa<sup>5</sup>, Takashi Ushida<sup>3,5</sup>, Toshiyuki Ikoma<sup>2</sup>, Yoshihiro Ito<sup>1,2,4\*</sup>

- 1. Nano Medical Engineering Laboratory, RIKEN Cluster for Pioneering Research, Saitama 351-0198 Japan,
- 2. Graduate School of Material Science and Engineering, Tokyo Institute of Technology, Tokyo 152-8550, Japan,
- 3. Graduate School of Medicine, The University of Tokyo, Tokyo, 113-0033, Japan,
- 4. Emergent Bioengineering Materials Research Team, RIKEN Center for Emergent Matter Science, Saitama, 351-0198, Japan
- 5. Graduate School of Engineering, The University of Tokyo, Tokyo, 113-0033, Japan,

<sup>\*</sup> Corresponding to y-ito@riken.jp

## 1. Method of morphology analysis

## (a) Parameter setting



#### (b) Measurement

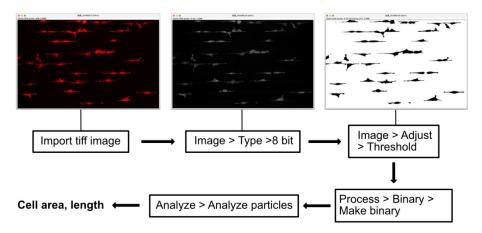
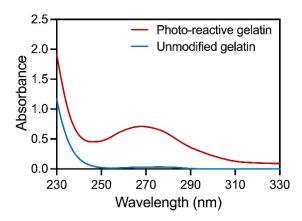


Figure S1 The process of morphology quantification of fluorescently stained cells.

## 2. Ultraviolet-visible spectra



**Figure S2**. UV absorbance spectra of unmodified gelatin and photo-reactive gelatin. The concentration was 1 mg/mL.

## 3. Photo-reactive crosslinking

Figure S3. A possible mechanism of photo-reactive crosslinking of modified gelatin.