

*Supporting Information*

**Carbon nanotube strain sensor based hemoretractometer for  
blood coagulation testing**

Zida Li<sup>1</sup>, Yize Wang<sup>1</sup>, Xufeng Xue<sup>1</sup>, Brendan McCracken<sup>2,3</sup>,

Kevin Ward<sup>2,3</sup>, and Jianping Fu<sup>1,3,4,5,\*</sup>

<sup>1</sup>Department of Mechanical Engineering, University of Michigan, Ann Arbor, Michigan 48109, USA; <sup>2</sup>Department of Emergency Medicine, University of Michigan Medical School, Ann Arbor, Michigan 48109, USA; <sup>3</sup>Michigan Center for Integrative Research in Critical Care, University of Michigan, Ann Arbor, Michigan 48109, USA; <sup>4</sup>Department of Biomedical Engineering, University of Michigan, Ann Arbor, Michigan 48109, USA; <sup>5</sup>Department of Cell and Developmental Biology, University of Michigan Medical School, Ann Arbor, Michigan 48109, USA.

\*Correspondence: [jpfu@umich.edu](mailto:jpfu@umich.edu)

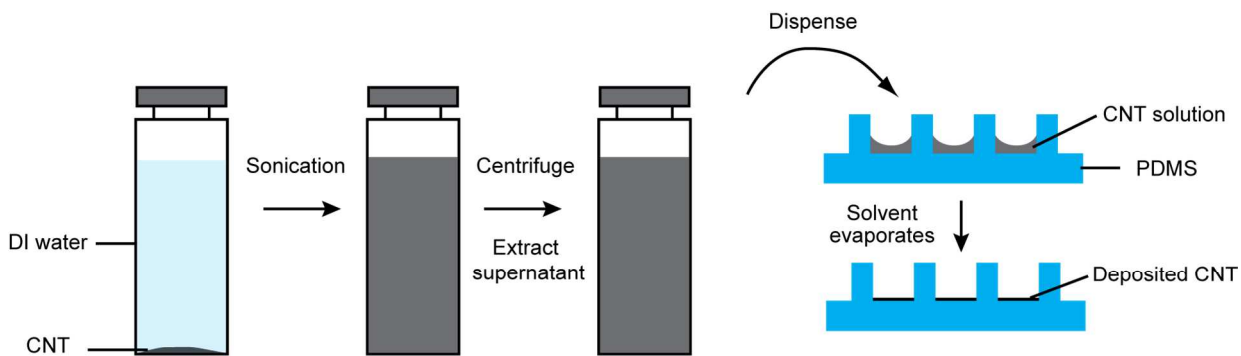


Figure S1. Schematic showing the fabrication flow of CNT films. CNT was dispersed in DI water through sonication. The resulting CNT solution was centrifuged to remove large CNT aggregates. The supernatant of the final CNT solution was then dispensed onto plasma-treated PDMS surfaces containing micropillar arrays and spread out evenly. The device was placed in a vacuum chamber to facilitate water evaporation.

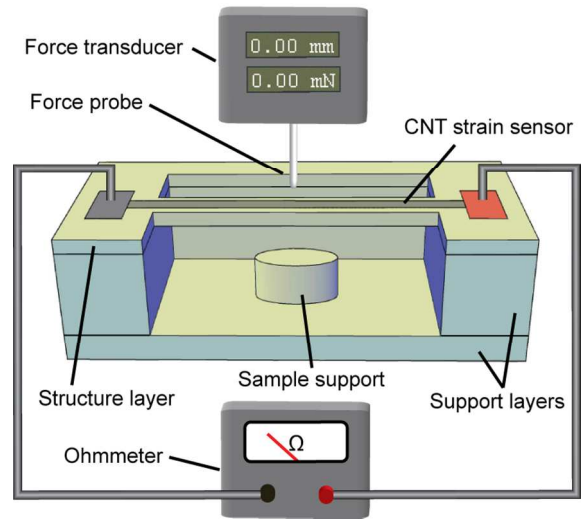


Figure S2. Schematic showing the setup of the characterization experiments. A probe transducer, which is mounted on a translation stage (not shown), displaces the center of the beam and measures the force applied. The translation stage records the displacement and a multimeter monitors the resistance.

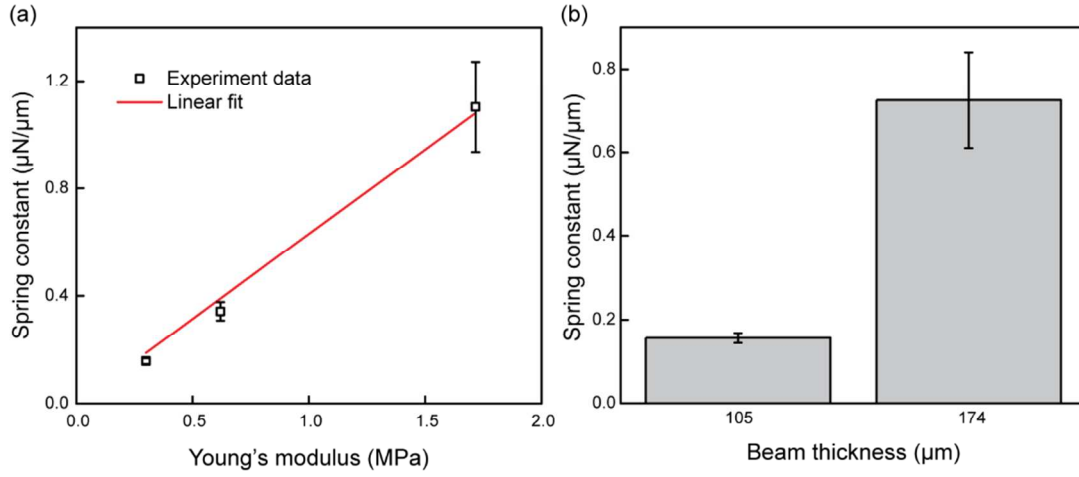


Figure S3. (a) Beam spring constant plotted as a function of PDMS's Young's modulus. Spring constant showed strong linear dependence on Young's modulus with a Pearson's correlation coefficient of 0.99. (b) Bar plot of beam spring constant as a function of beam thickness.