

Electronic Supplementary Information for
**Large-Scale Assembly of Highly Sensitive Si-based Flexible Strain
Sensor for Human Motion Monitoring**

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Supplementary figures

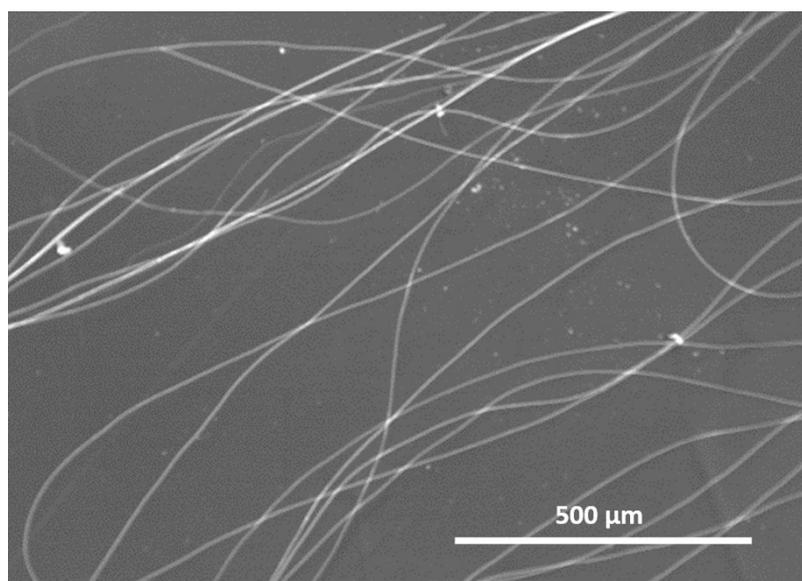


Fig. S1 The SEM image of the as-synthesized silicon nanowires.

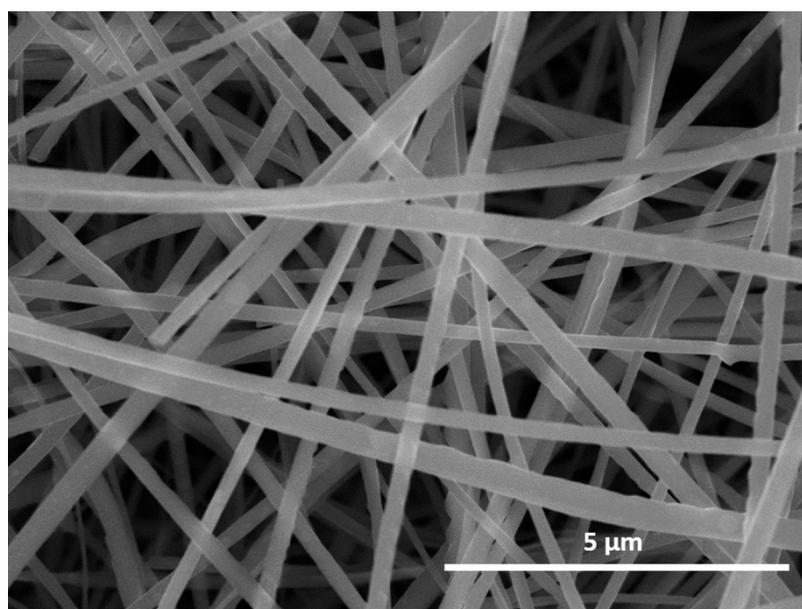


Fig. S2 The SEM image of silicon nanowires after removing the outside oxide shell with hydrofluoric acid solution.

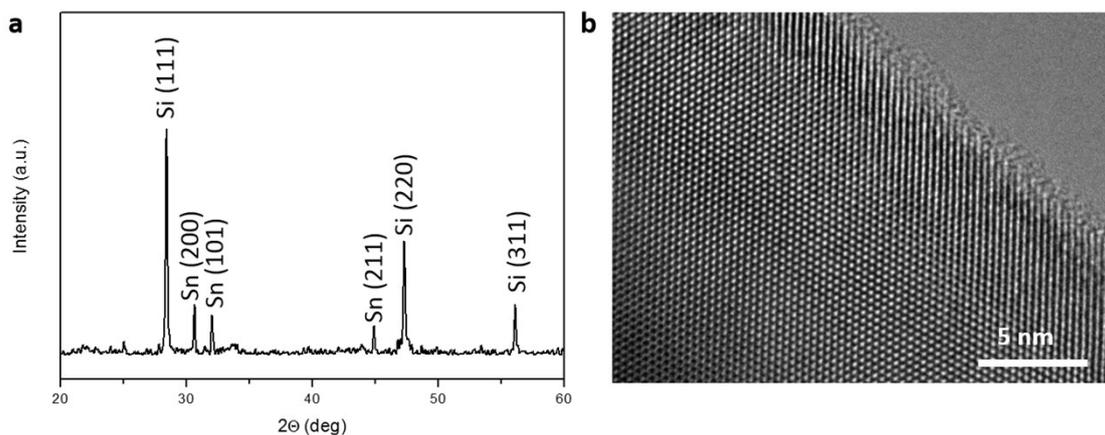


Fig. S3 (a) XRD patterns of the as-synthesized silicon nanowires. The diffraction peaks were determined referring to JCPDS 77-2107 and JCPDS 02-0709. (b) A typical HRTEM image of silicon nanowires after removing the outside oxide shell with hydrofluoric acid solution.

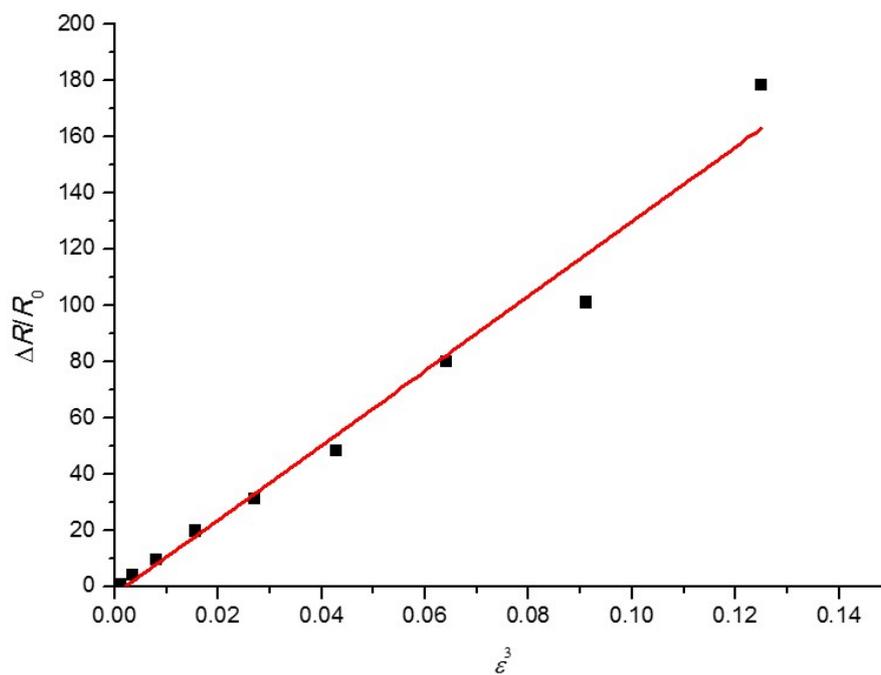


Fig. S4. The plot of the relative resistance change ($\Delta R/R_0$) versus cubic strain (ϵ^3).

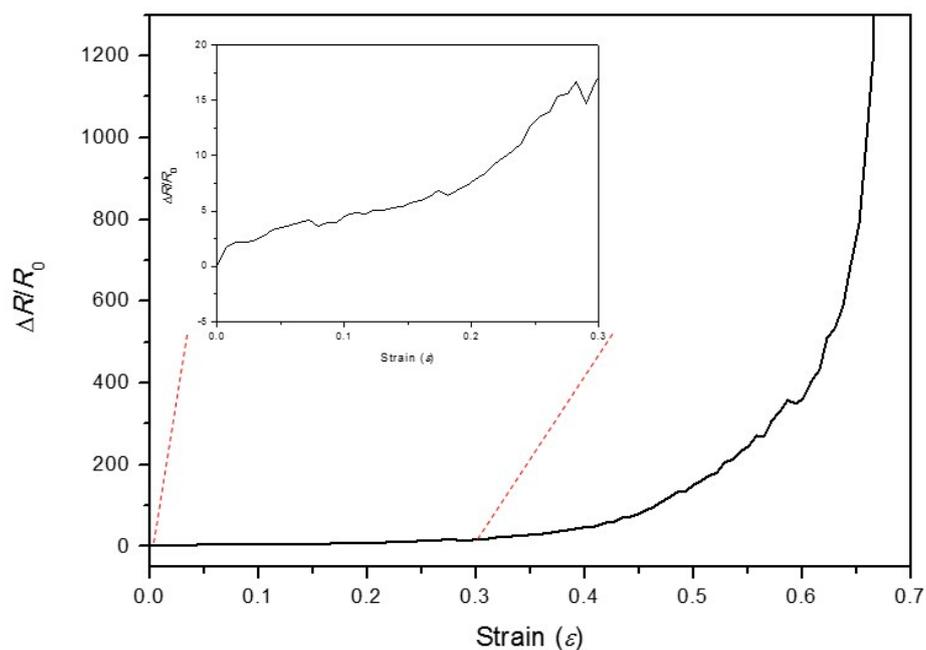


Fig. S5 The relative resistance change versus dynamic stretching from 0 strain to the stretchable limit (about 66% in this sample). Indeed, we also found the maximum stretchable limit could be 70% on other devices.

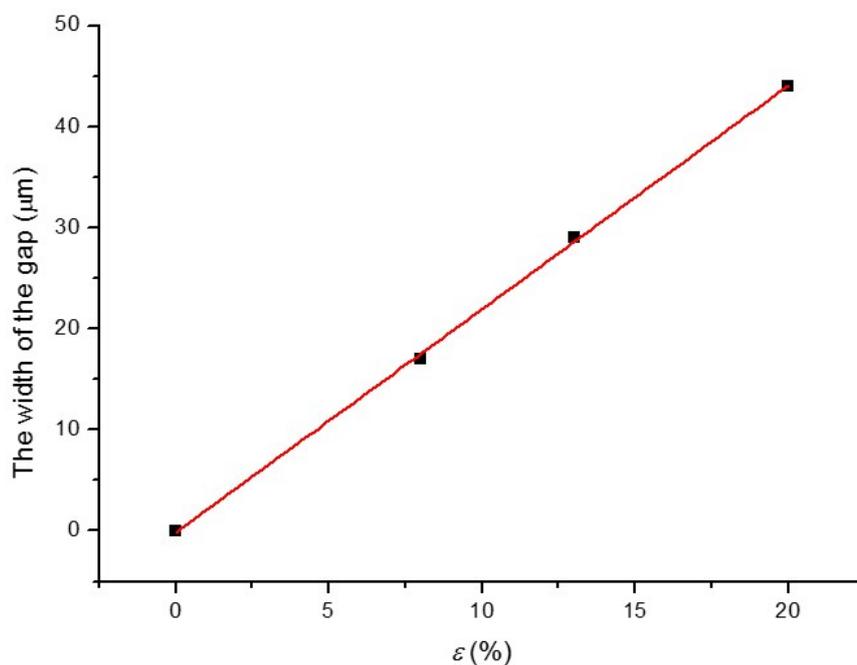


Fig. S6 Plot of the width of the gap in **Fig. 4** of the main text versus the exerted strain.