Electronic Supplementary Material (ESI) for Soft Matter. This journal is © The Royal Society of Chemistry 2017

## **Supporting Information**

**Title** Temperature dependent evolution of wrinkled single-crystal silicon ribbons on shape memory polymer

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Figure S1 A representative shape memory cycle of SMP.

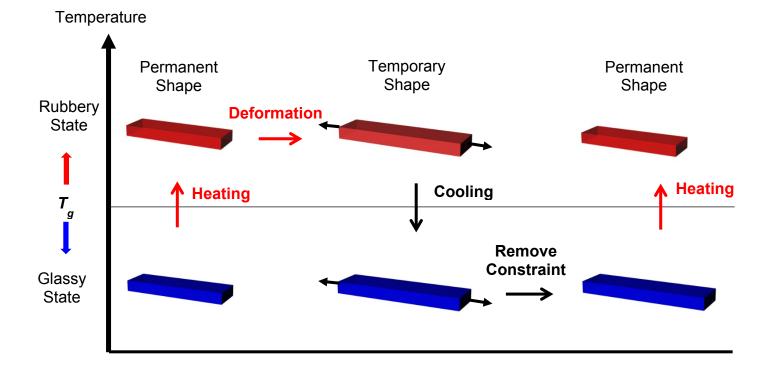


Figure S2 Fabrication of Si ribbons on SOI wafer by photolithography and etching processes.

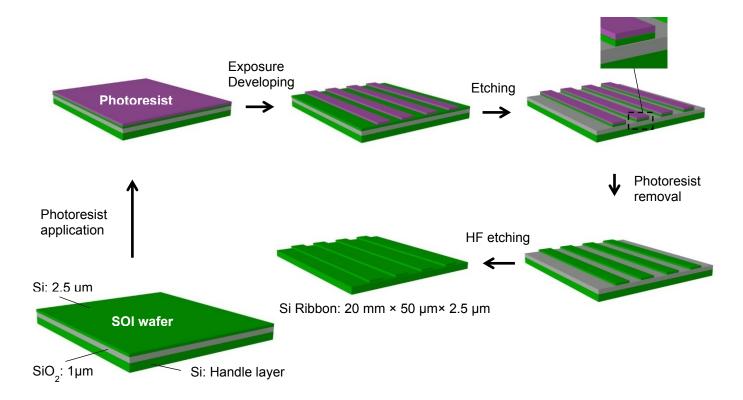


Figure S3 Schematic illustration of stress relaxation in a viscoelastic material due to constant strain.

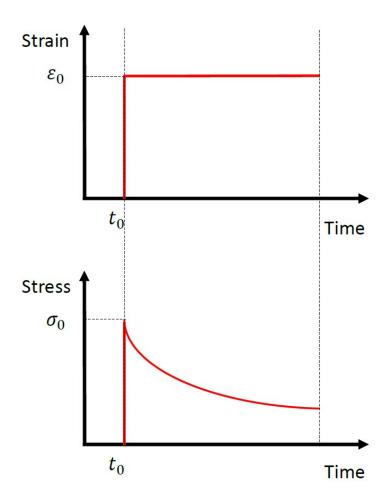


Figure S4 Comparison between experiment and FEA simulation on wrinkle evolution of (a) wavelengths and (b) amplitude at different SMP recovering temperatures.

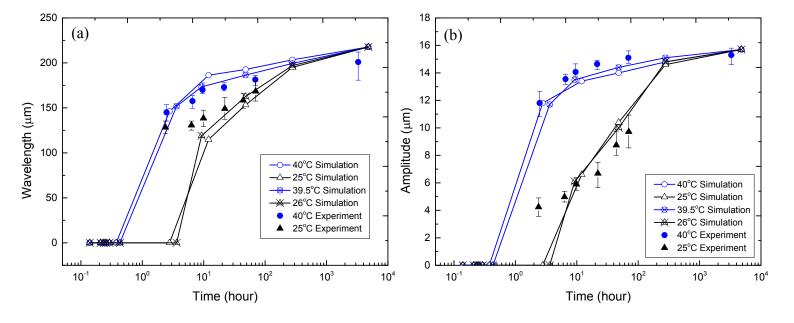


Figure S5. Stress relaxation modulus of the SMP at different temperatures.

