

Title: Supplementary Movie 1

Description: Fabrication procedures for the compliant TEG. Whole fabrication processes for realizing a 36-np-pair compliant TEG including the details of the magnetic self-assembly of s-HCs and automatic integration of TE legs.

Title: Supplementary Movie 2

Description: Hot surface warning gloves with a self-powered LED system. Demonstration of hot surface warning gloves by integrating the self-powered LED system driven by a 220-np-pair compliant TEG. The conformal contact between the compliant TEG and 3D surfaces (hot bottle in this work) resulted in a bright 'H' sign due to the LEDs being turned on, without the assistance of external power.