

## Electronic supplementary information (ESI)

### Self-healing and stretchable conductor based on embedded liquid metal patterns within imprintable dynamic covalent elastomer

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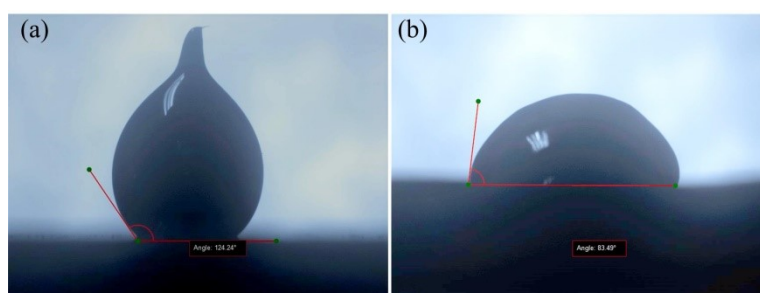


Figure S1. The contact angles of LM on regular PDMS (a) and on the self-healing PDMS (b).



Figure S2. Photographs of self-healing conductors with patterns of LM embedded in elastomer to form lines, letters, two entangled spirals, interdigital electrode and circuit patterns. Scale bar: 5mm.

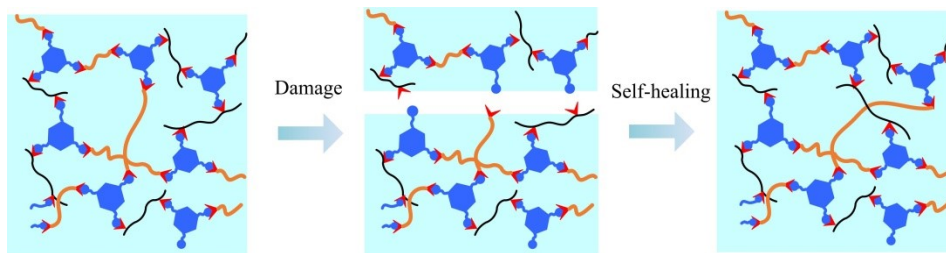


Figure S3. Schematic illustration of the dynamic covalent imine bond during self-healing.

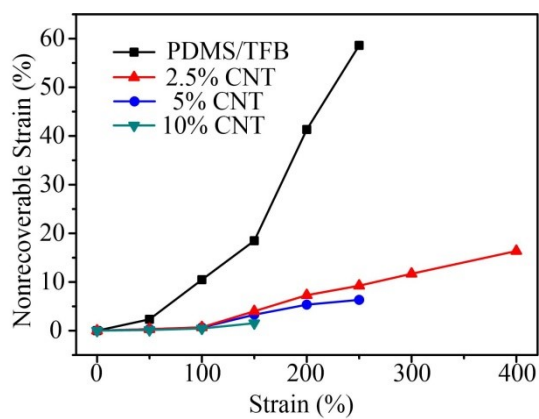


Figure S4. Irreversible residual strain of the self-healing PDMS/MWCNT film under different strains.

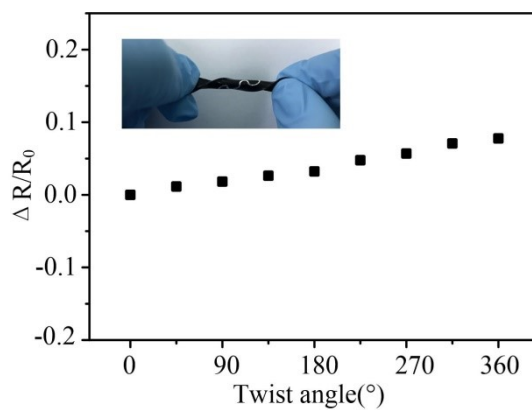


Figure S5. Relative resistance change of the self-healing conductor under different twist angle

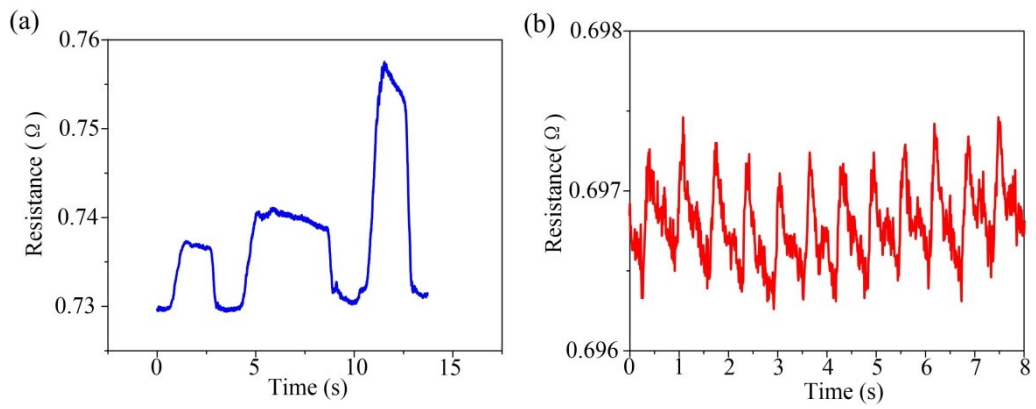


Figure S6. The resistive strain sensor was used for physiological monitoring: (a) arm movement, and (b) heart beating.

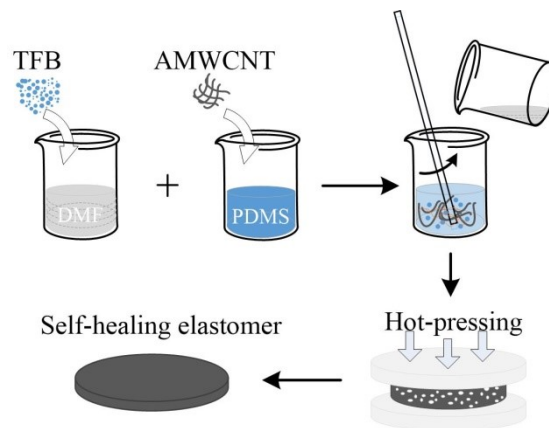


Figure S7. Schematic of synthesis of the self-healed elastomer.