Supporting Information

Stretchable and recyclable liquid metal droplets embedded elastomer composite with high mechanically sensitive conductivity

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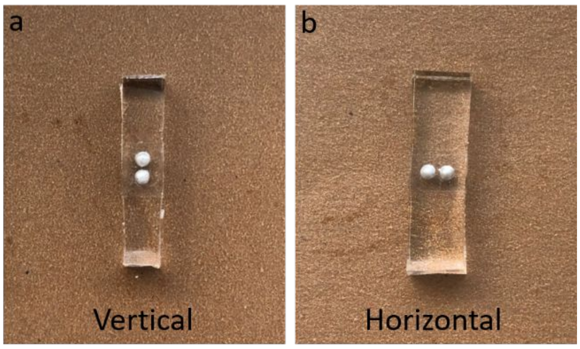

Figure S1. Optical photographs of the LMDE composites with (a) vertical and (b) horizontal arrangement of droplets.

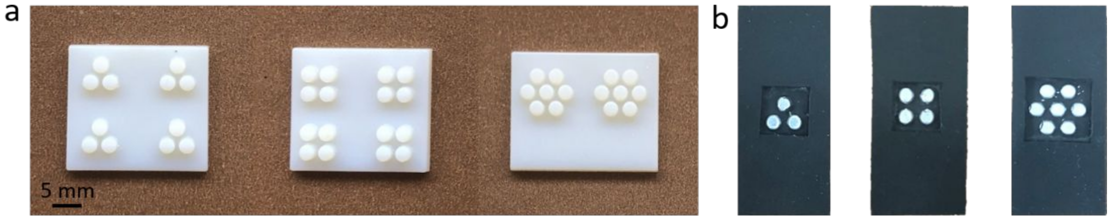

Figure S2. (a) Optical photographs of different kinds of 3D printed molds and (b) the as-fabricated H-LMDE composites with different arrangement of droplets.

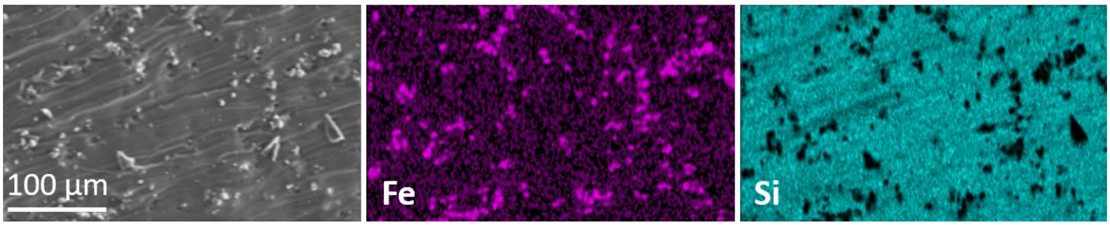

Figure S3. EDS mapping of the magnetic PDMS matrix for the as-fabricated H-LMDE composites.

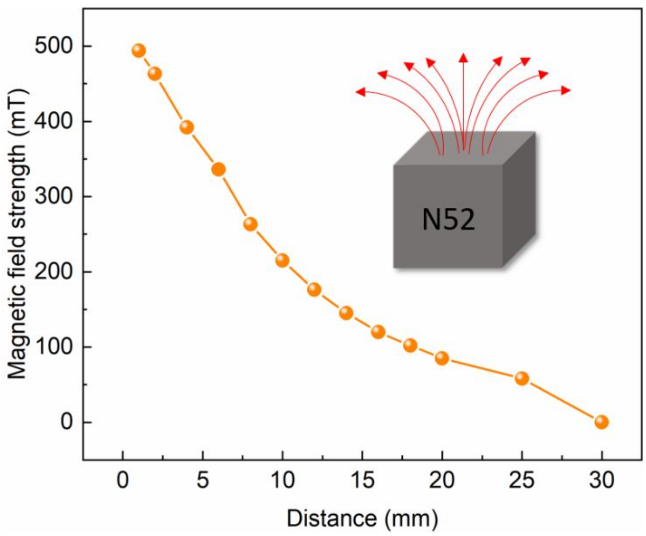

Figure S4. The magnetic field strength versus to the distance away from the surface of

N52 typed magnet.

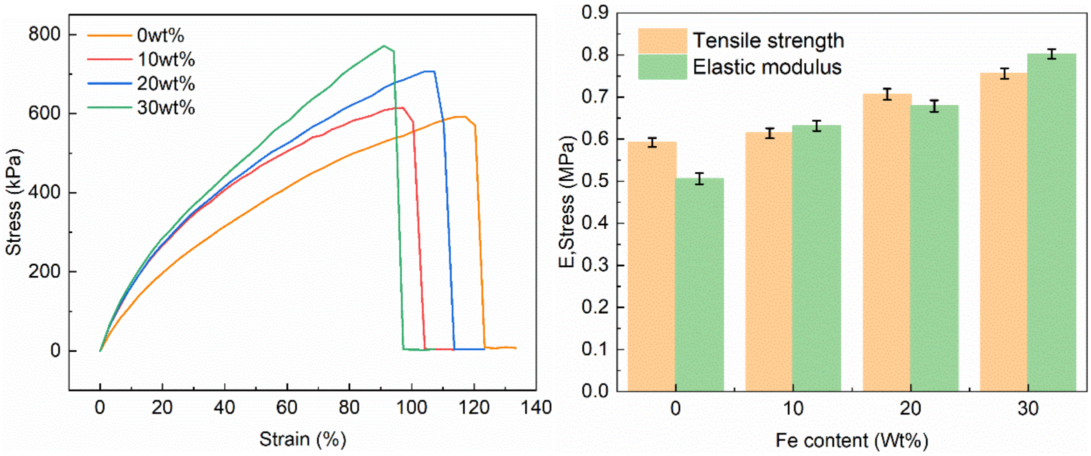

Figure S5. Tensile strength and elastic modulus of the elastomer matrix with different CIP contents.

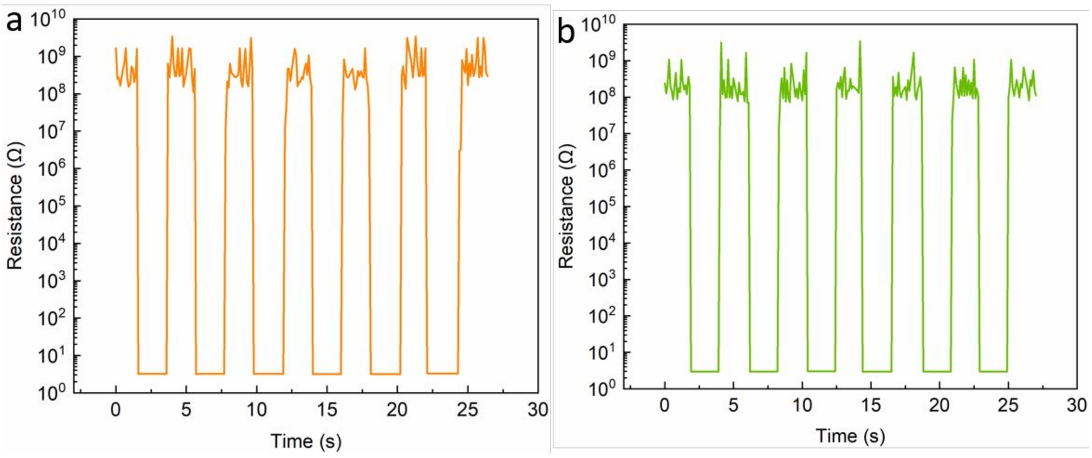

Figure S6. The corresponding resistance variation of the three (a) and four (b) LMDs embedded H-LMDE composite during cyclic stretching at 30 % strain.

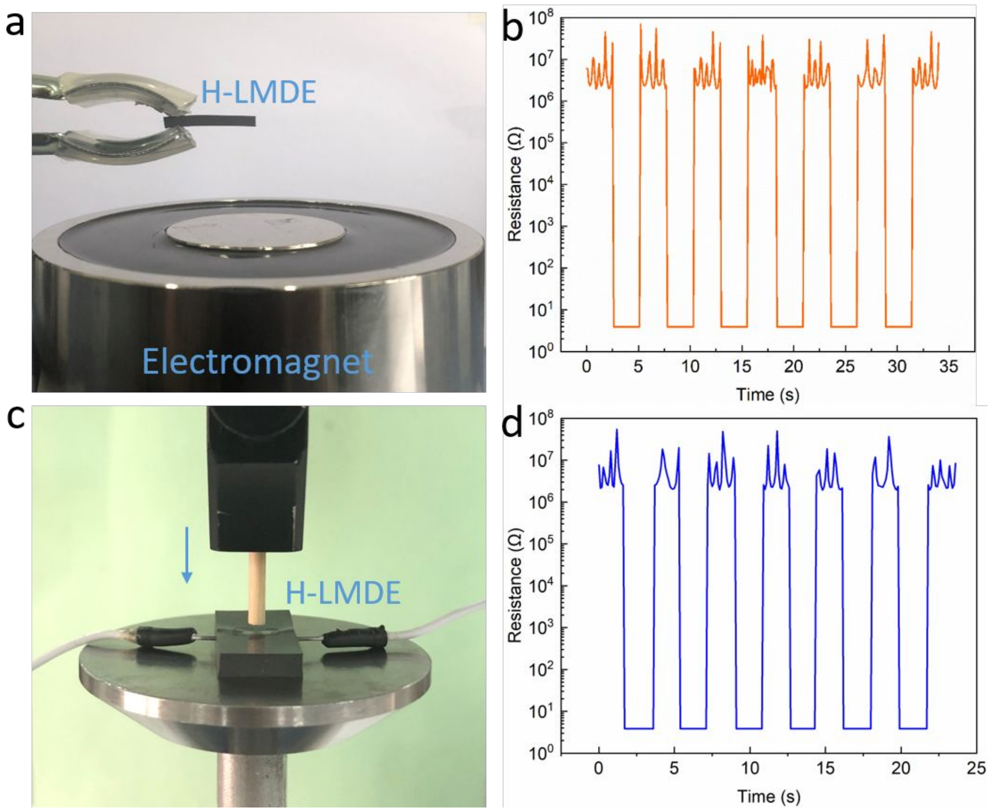

Figure S7. The digital images of test systems and corresponding resistance variation of the H-LMDE composite under cyclical magnetic field (a,b) and compression (c,d).

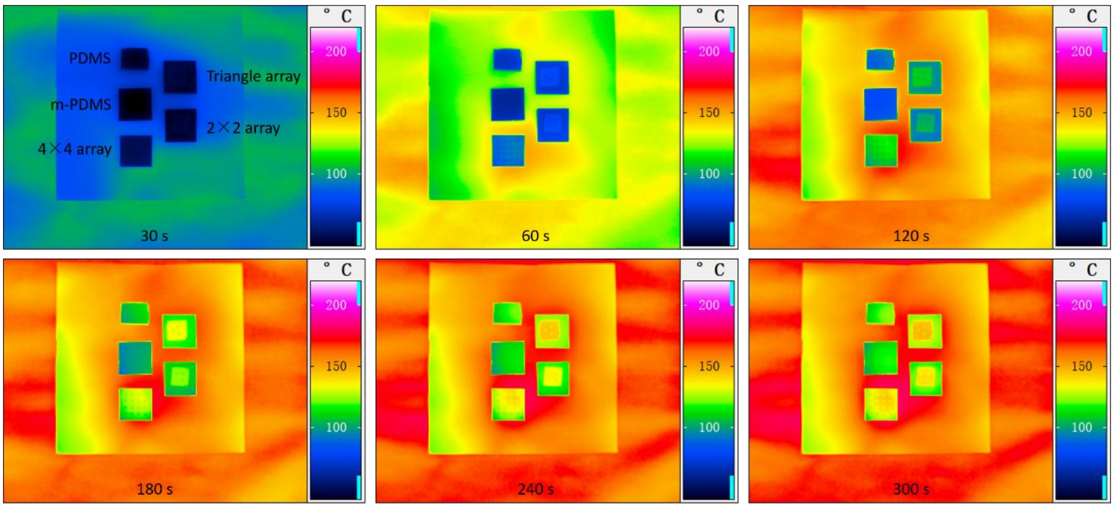

Figure S8. Infrared images of the surface temperature for different samples over time

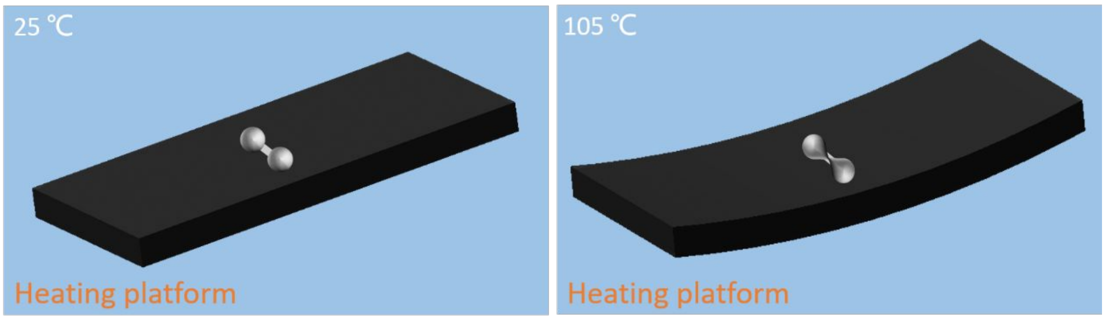

Figure S9. Schematic diagram of deformation of the H-LMDE composite during the heating process.

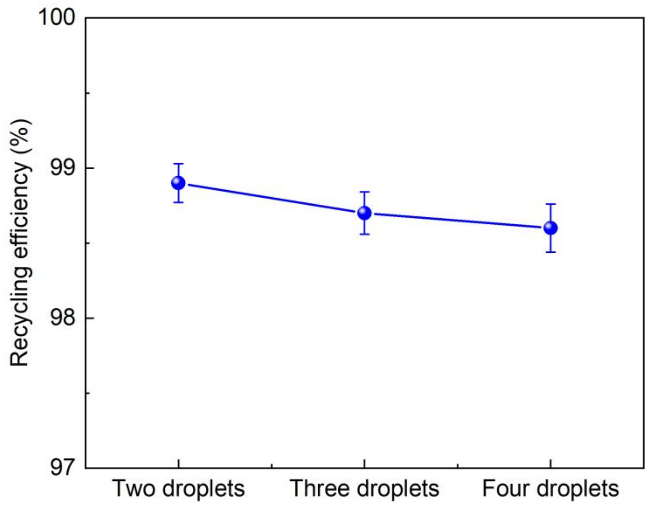

Figure S10. The recycling efficiency of the H-LMDE composites (30 wt% CIP content) with different numbers of LMDs.

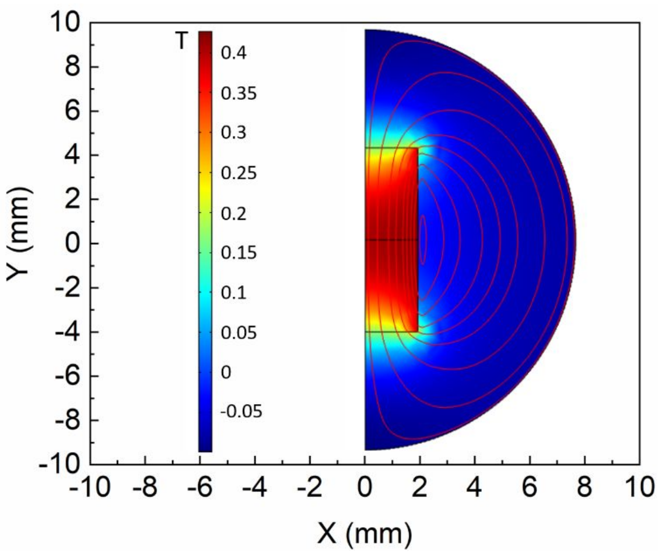

Figure S11. Magnetic field distribution of the NdFeB magnet.