ACCSCIENCE PUBLISHING

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RESEARCH ARTICLE

Magnetically programmable 3D printing of liquid metal robots for targeted therapy

Supplementary Files

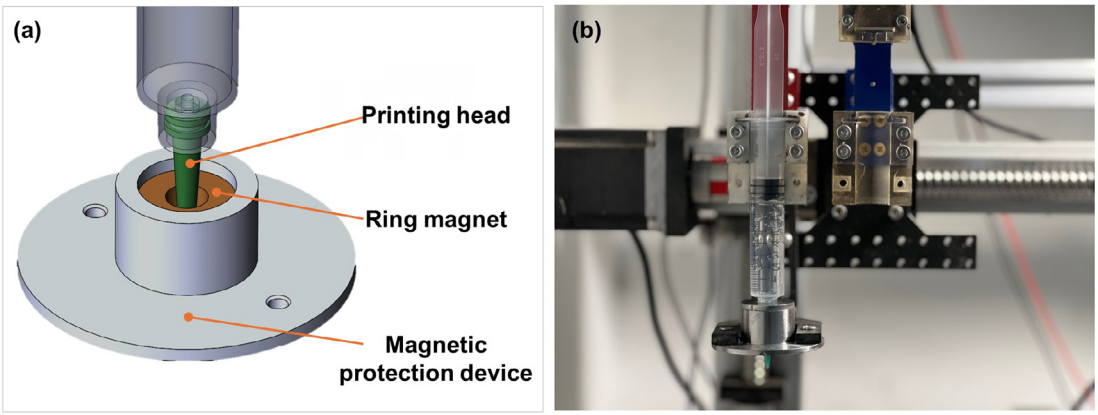

Figure S1. (a) Schematic diagram and (b) photo of the device of magnetic field-assisted direct ink writing 3D printing

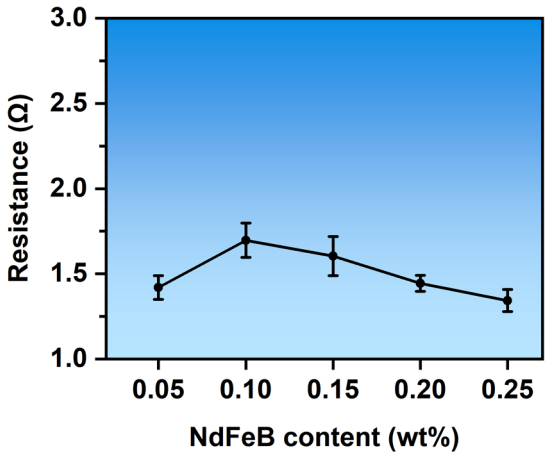

Figure S2. Resistance of magnetic liquid metal at different neodymium–iron–boron (NdFeB) mass ratios

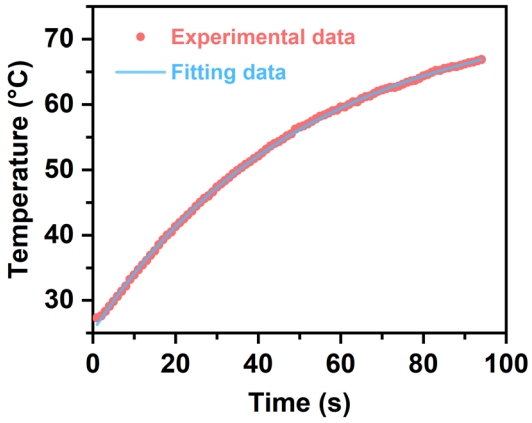

Figure S3. Temperature-rise fitting curve for magnetic liquid metal–elastomer

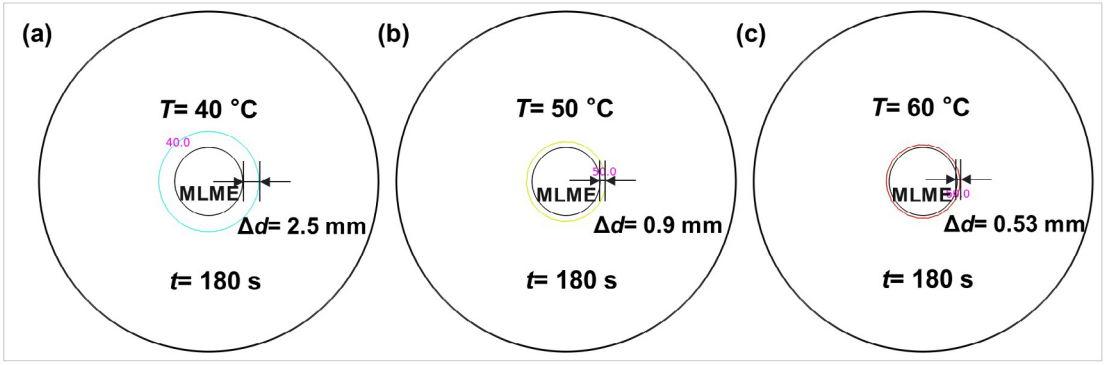

Figure S4. Isothermal contour analysis of thermal diffusion in the simulated intestinal tissue. (a) T = 40 °C; (b) T = 50 °C; (c) T = 60 °C. The inner black circle represents the outer boundary of the circular MLME heater, and the outer black circle represents the boundary of the intestinal tissue model. Abbreviation: MLME: Magnetic liquid metal–elastomer.

Video S1. Magnetic filed-assisted direct ink writing process of magnetic liquid metal elastomer

Video S2. Grasping motion of magnetic liquid metal elastomer soft robot under magnetic field control

Video S3. Crawling motion of magnetic liquid metal elastomer soft robot under magnetic field control

Video S4. Rolling motion of magnetic liquid metal elastomer soft robot under magnetic field control

Video S5. Magnetothermal heating of MLME soft robot on ex vivo porcine intestine tissue