

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Ceramic-like properties of **PDMS-COO-Zn**.

File Name: Supplementary Movie 2

Description: Variable stiffness properties of **PDMS-COO-Zn**.

File Name: Supplementary Movie 3

Description: **PDMS-COO-Zn** used as the orthopedic immobilization.

File Name: Supplementary Movie 4

Description: 3D printing with **PDMS-COO-Zn** polymer.

File Name: Supplementary Movie 5

Description: Build a house by 3D printing and thermal-healing.

File Name: Supplementary Movie 6

Description: 3D printing of conductive circuit.