Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

Liquid metal nano/micro-channels for efficient energy saving in thermal interface materials

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1. Summary of Silicone thermal pads with different fillers

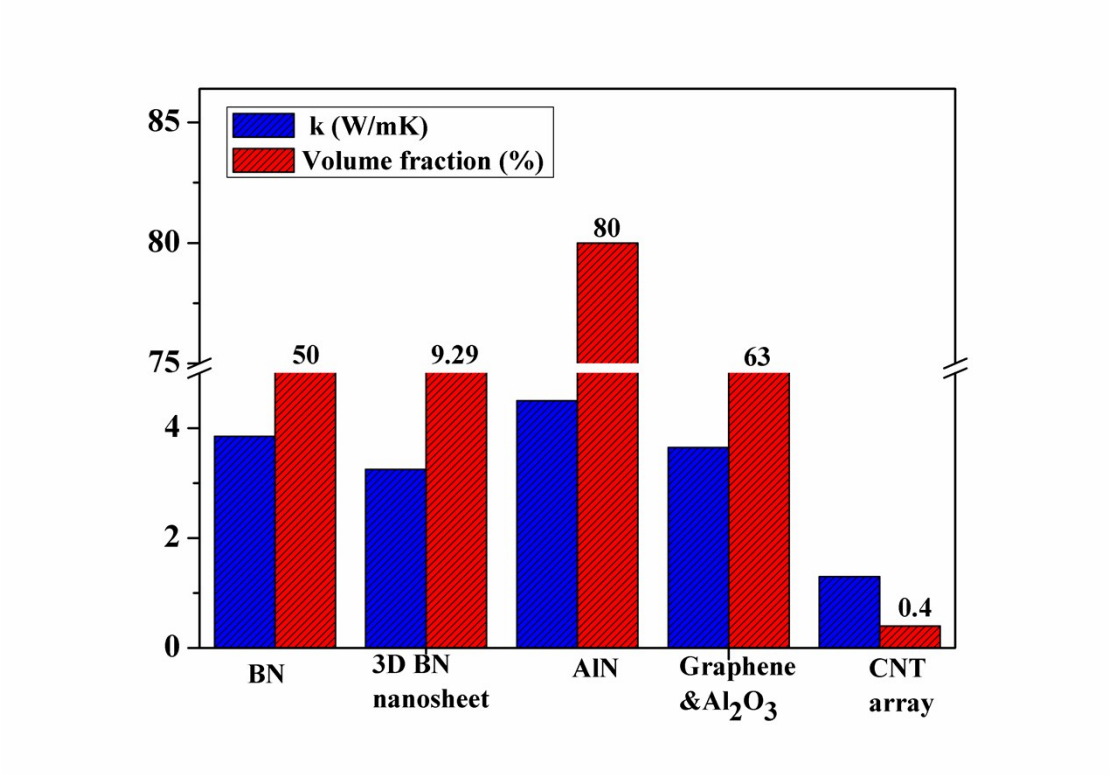

Figure S1 Thermal conductivity and volume filling ratios of silicone pads with different fillers from literatures.

2. Deformation diagram of LM/PDMS composite

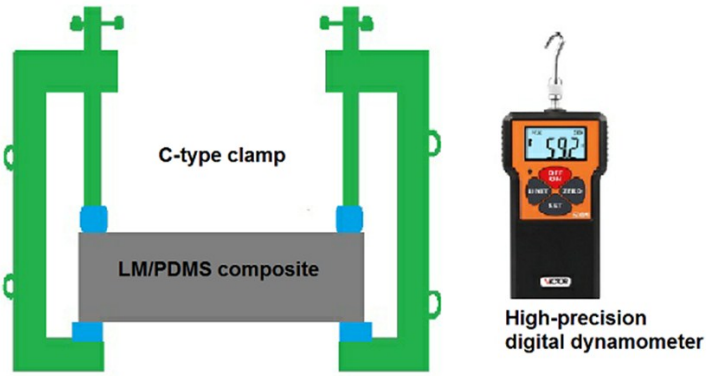

Figure S2 The deformation operation of LM/PDMS composite is done by exert different external tensile force.

3. EDS mapping for different elements

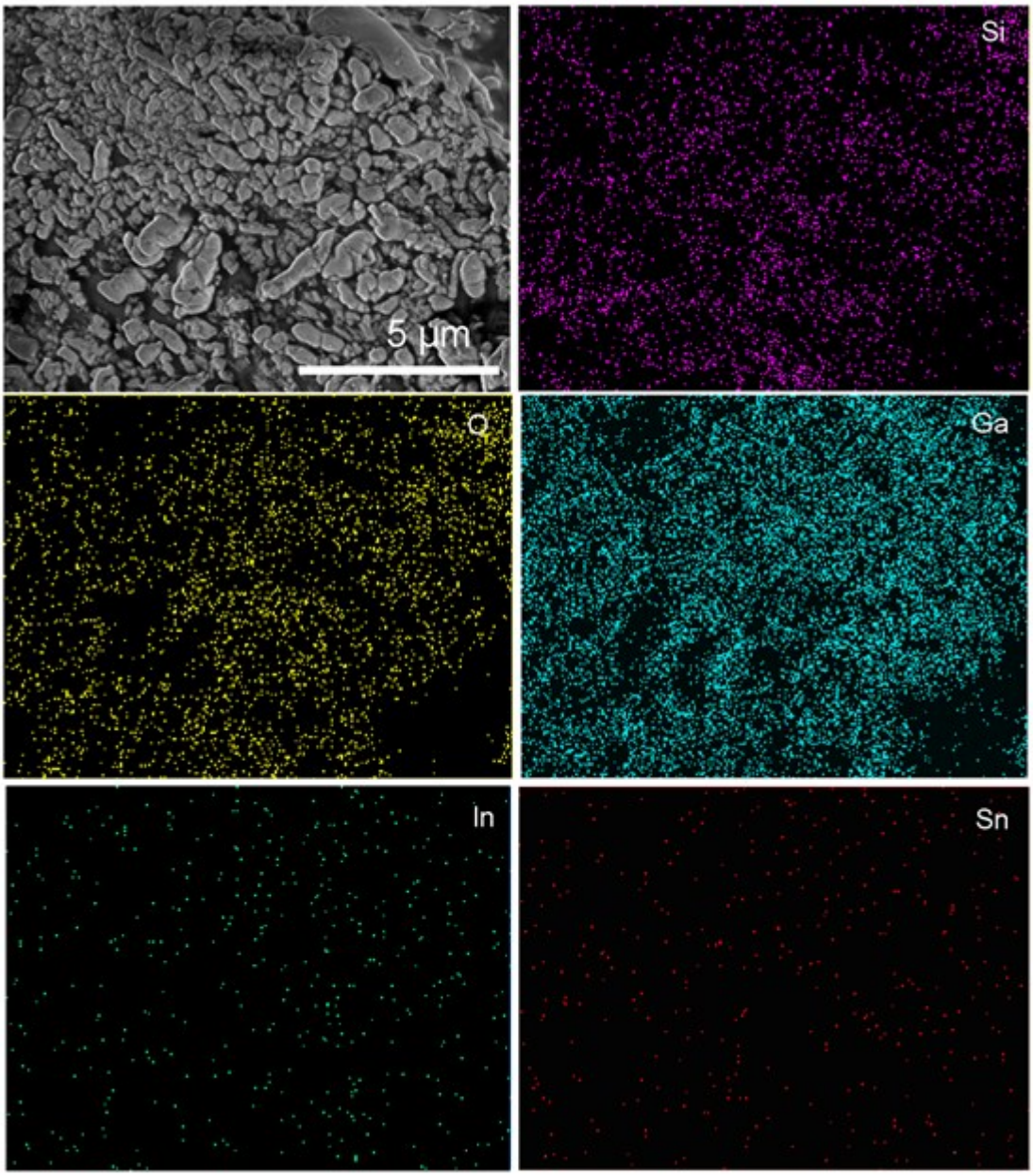

Figure S3 The EDS mapping pictures of Si, O, Ga, In, and Sn elements from the LM/PDMS composite pad.

4. comparison diagram of thermal resistance vs thickness between sample 1 (red line) and sample 2 (black line)

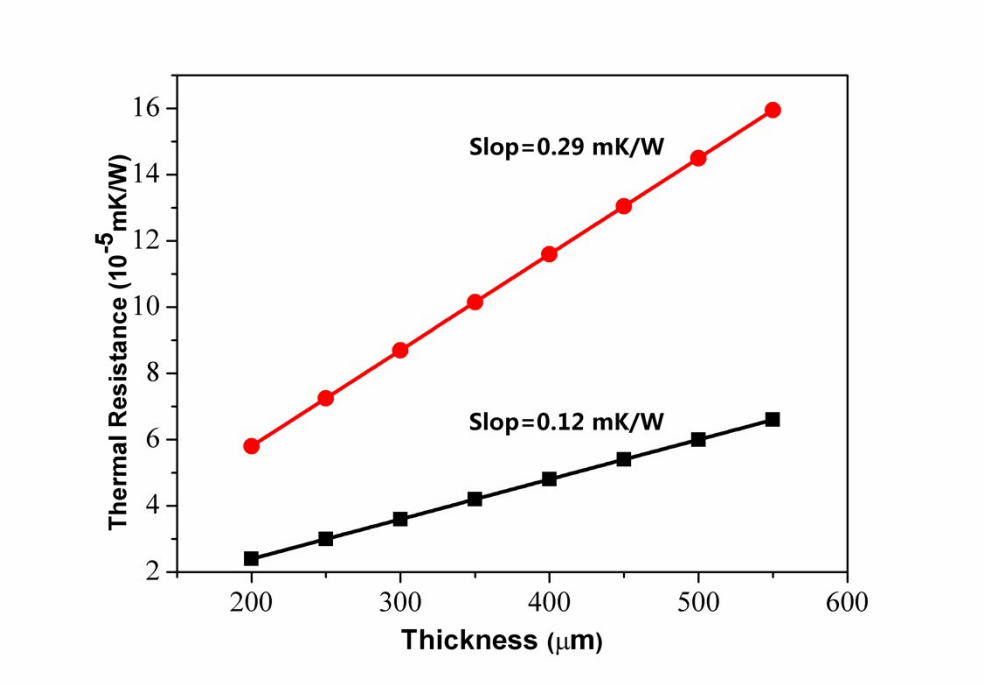

Figure S4 The comparison diagram of thermal resistance vs thickness between sample 1 (red line) and sample 2 (black line)

5. Electrical conductivity of the LM/PDMS composite

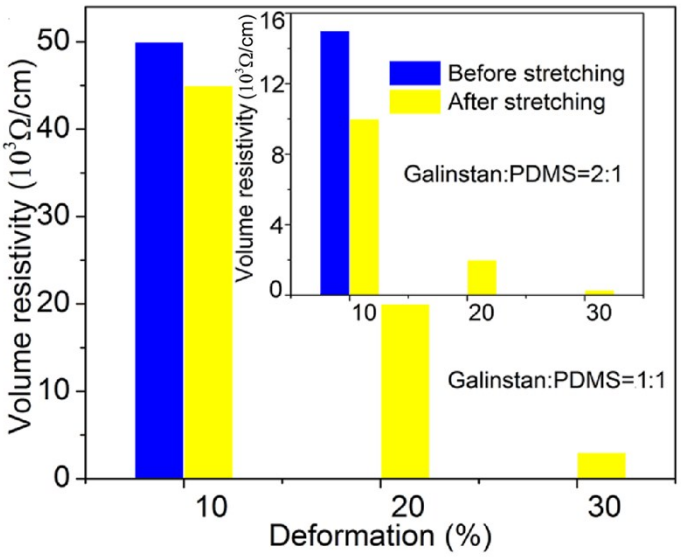

Figure S5 Volume resistivity of the LM/PDMS=1:1 composite at different deformation. Inset: Volume resistivity of the LM/PDMS=2:1 composite at different deformation.