## Insight into the local near-infrared photothermal dynamics of graphene oxide functionalized polymer through optical microfiber

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Fig. S1. (a) Geometry and (b) transmission spectrum of the silica microfiber interferometer in air. (The inset of a: Schematic illustration of the sensing region of microfiber; The maked region of b: The selected transmission notch used in spectra tracking in photothermal process.)



Fig. S2. Thermal response of the silica microfiber interferometer.



Fig. S3. (a) UV-vis absorption spectra and (b) schematic illustration of the Ag@G nanosheets before and after NIR laser irradiation.



**Fig. S4.** SEM images of nanocomposites before and after phase transition. (a: PNIPAM; b, d,: GO-PNIPAM; c, e,: Ag@GO-PNIPAM; a-c: before phase transition, d-e: after phase transition.)