**Supporting Information for**

NIR-mediated Deformation from a CNT-based Bilayer Hydrogel

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**Figure S1.** Optical photos of the phase transition behavior of PNaAMPS/P(NIPAM-co-MA)/CNTs hydrogels under near-infrared light irradiation



**Figure S2.** Transmittance curve of all hydrogels(PNaAMPS/P(NIPAM-co-MA), PNaAMPS/P(NIPAM-co-MA)/CNTs and SN: P(NIPAM-co-MA))

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**Figure S3.** Cyclic reversible photothermal conversion behavior of PNaAMPS/P(NIPAM-co-MA)/CNTs hydrogels(Control group: PNaAMPS/P(NIPAM-co-MA) hydrogel)

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**Figure S4.** Cyclic reversible bending behavior of bilayer hydrogel(active layer: PNaAMPS/P(NIPAM-co-MA)/CNTs, negative layer: PNaAMPS/P(NIPAM-co-MA)) under infrared light irradiation