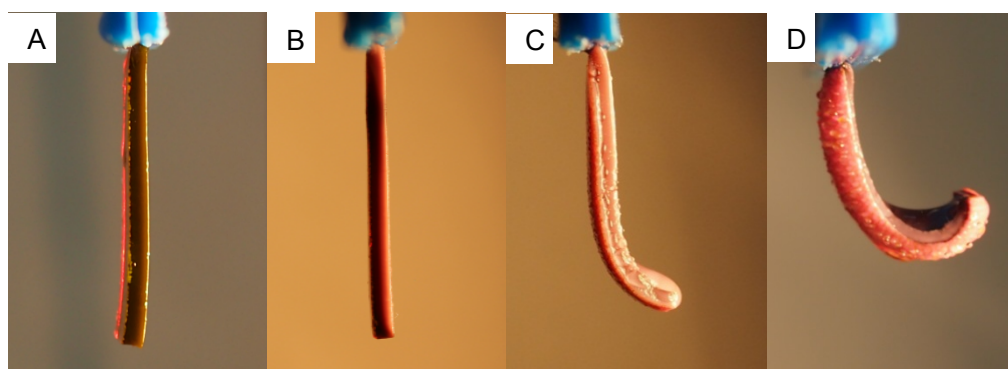


## Electronic Supplementary Information (ESI)

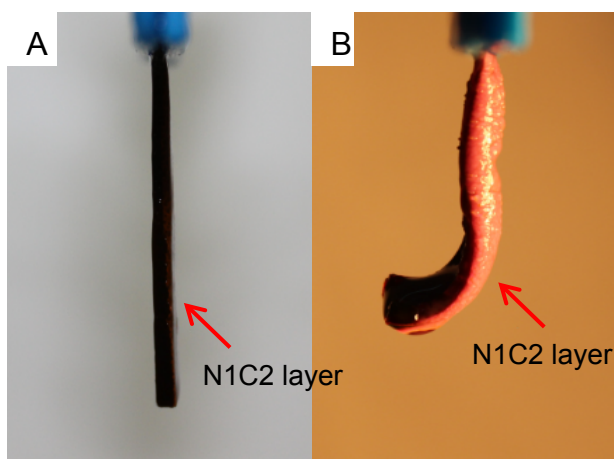
### Infrared-Driving Actuation Based on Bilayer Graphene Oxide- Poly(*N*-isopropylacrylamide) Nanocomposite Hydrogels

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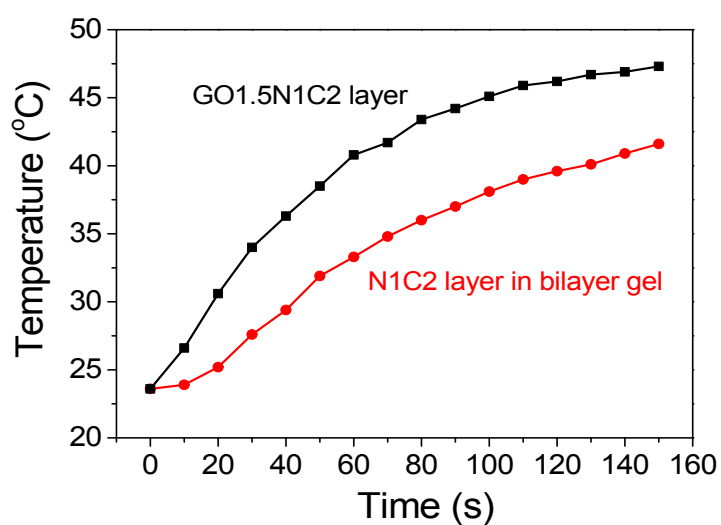
Research Institute of Materials Science and State Key Laboratory of Luminescent Materials  
and Devices, South China University of Technology, Guangzhou 510640, China



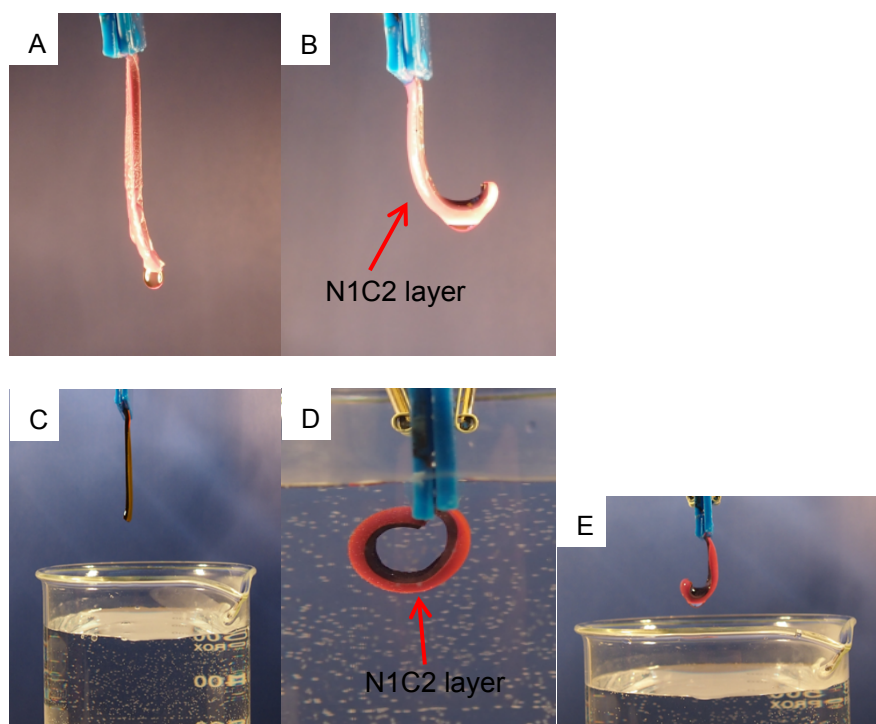
**Fig. S1.** Digital camera photographs of the GO1N1C2-N1C2 bilayer NC gel during IR irradiation. A: before irradiation; B: irradiated for 20 s; C: irradiated for 80 s; D: irradiated for 110 s.



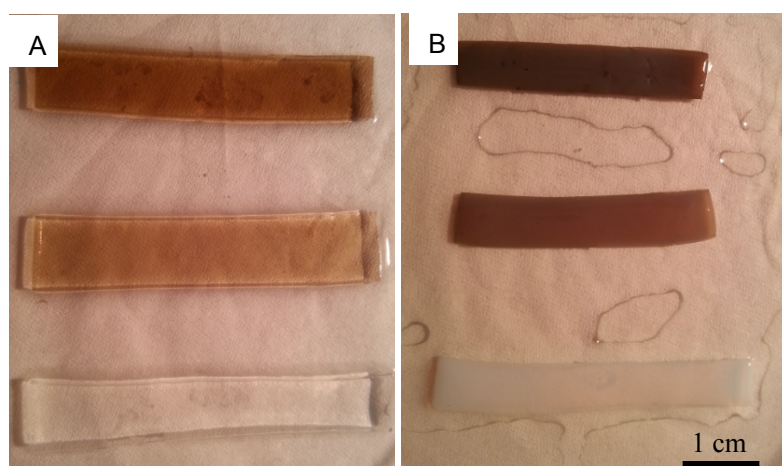
**Fig. S2.** Digital camera photographs of the actuator action of the GO1N1C2-N1C2 bilayer NC gel before (A) and after (B) IR irradiated 80 s on the N1C2 layer.



**Fig. S3.** Temperature variation with the IR irradiation time for the GO-containing NC gel GO1.5N1C2 and the N1C2 layer without GO in the GO1.5N1C2-N1C2 bilayer gel.



**Fig. S4.** A and B: the GO1N1C2-N1C2 bilayer NC gel was IR irradiated for 35 s on both sides at the same time; C, D, and E: the GO1N1C2-N1C2 bilayer NC gel was immersed in water at 50 °C and bent immediately.



**Fig. S5.** IR response of the GOMN1C2 NC gels with GO of 0, 0.5, and 1.0 mg/mL from bottom to top. A: before IR irradiation; B: after IR irradiation for 110 s.