Synthesis of graphene oxide/polyacrylic acid nanocomposite hydrogel and its swelling and electroresponsive properties

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1. Micro-morphologies of the pure PAA hydrogel (a, c, e) and the GO/PAA composite hydrogel (b, d, f) shown in Figure S1.

2. Two video files named as “PAA” and “GO-PAA” display the vivid electroresponsive behaviors of the pure PAA hydrogel and the GO/PAA nanocomposite hydrogel under a 10 V electric field.

3. Because the two hydrogels are both transparent, the deformation of the hydrogels in the video files is hard to be observed. Thus, to further clearly illustrate the deformation process, a series of printscreen images of the video at different time were shown in Figure S2.
Figure S1 Optical through the microscope images of the pure PAA hydrogel (a, c, e) and the GO/PAA composite hydrogel (b, d, f).
Figure S2 The printscreen images of the two video files at different time. Left images (a, b, c, d, e and f) are the GO/PAA composite hydrogel and right images (g, h, i, j, k and l) are the pure PAA hydrogel. The red lines are added in order to mark the hydrogels’ flames.