ELECTRONIC SUPPLEMENTARY INFORMATION

Feasibility of polyethylene film as both supporting material for transfer and target substrate for flexible strain sensor of CVD graphene grown on Cu foil

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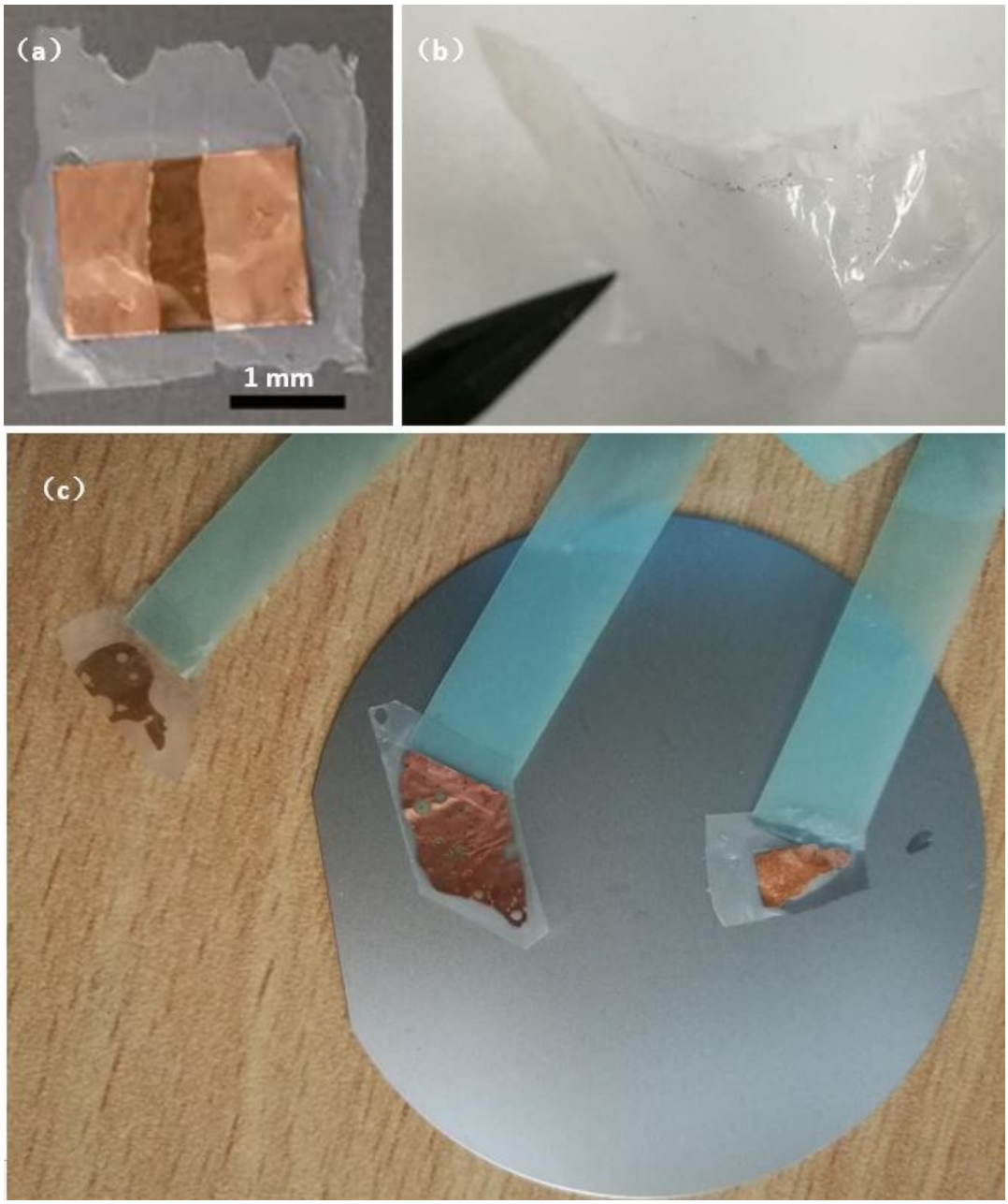

Fig. 1 Photographs of some samples. (a) PE/g/Cu/PE-2. (b) Tweezers hold g/PE. (c) Parts of Cu foil corrode from pinholes of PE film.

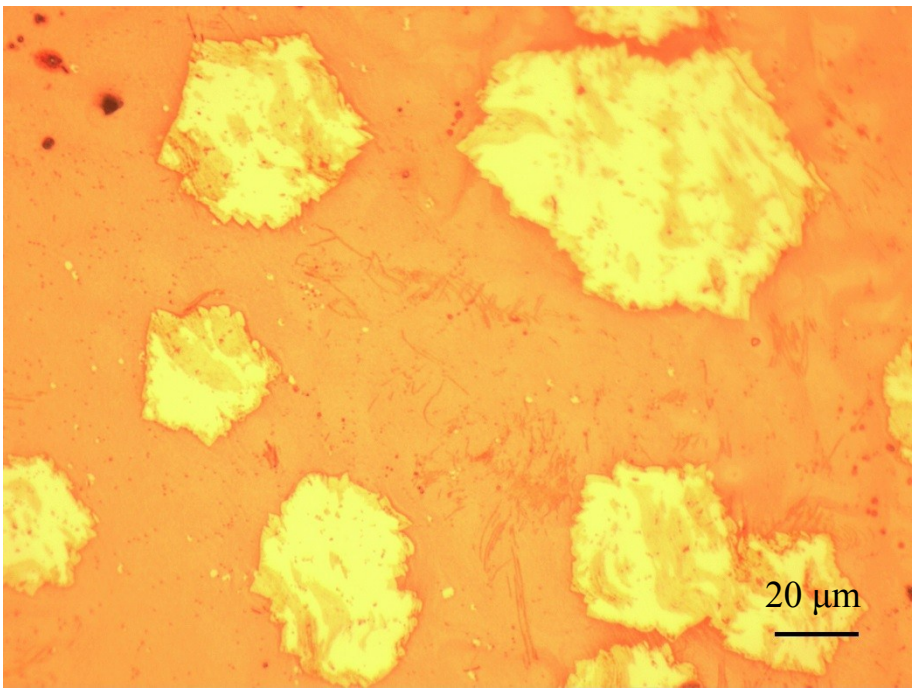

Fig. 2 Optical images of as-grown graphene crystalline grains grown on Cu foil in short growth duration. They have a shape of polygon.

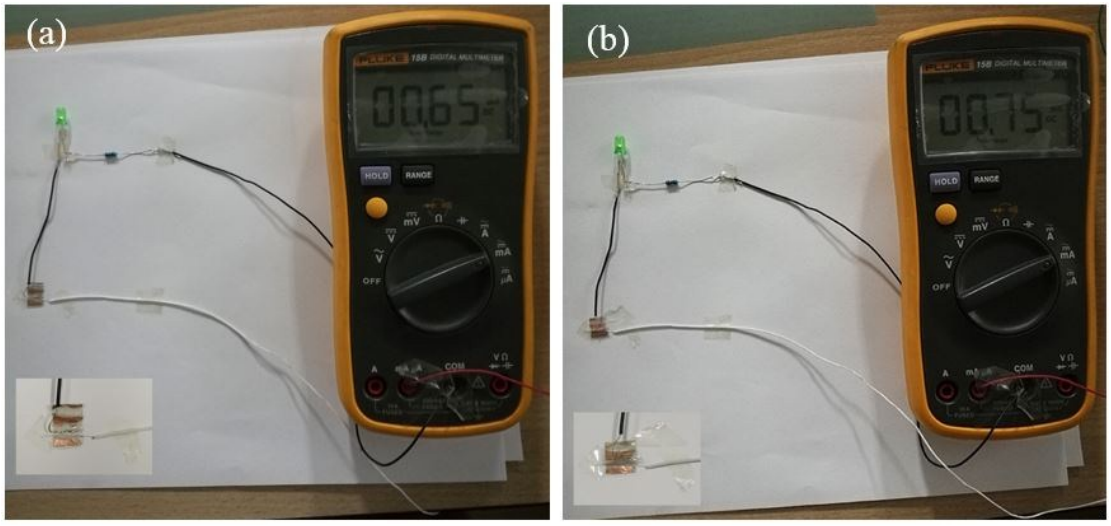

Fig. 3 A circuit to detect the deformation response of graphene. The inset is a photograph of flexible sensor made up of a strip of Cu-2/g/PE. (a) The g/PE strip, mounted on white paper using two tapes, is in its normal state. (b) The g/PE strip is bent, in the aid of an additional tape.

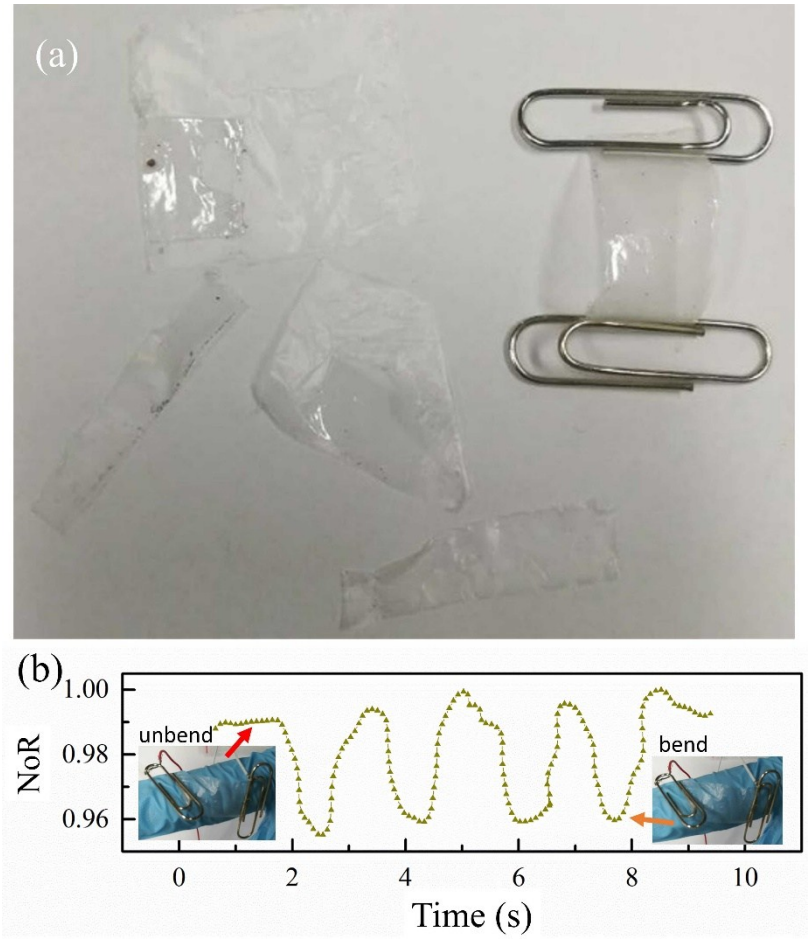

Fig. 4 A g/PE sensor to test the sensitivity of graphene as to weak deformation. (a) The g/PE sensor is made by clipping a tailored g/PE with a pair of clips. (b) Weak bend deformation, applied in a floating manner via finger knuckle, loops four times.

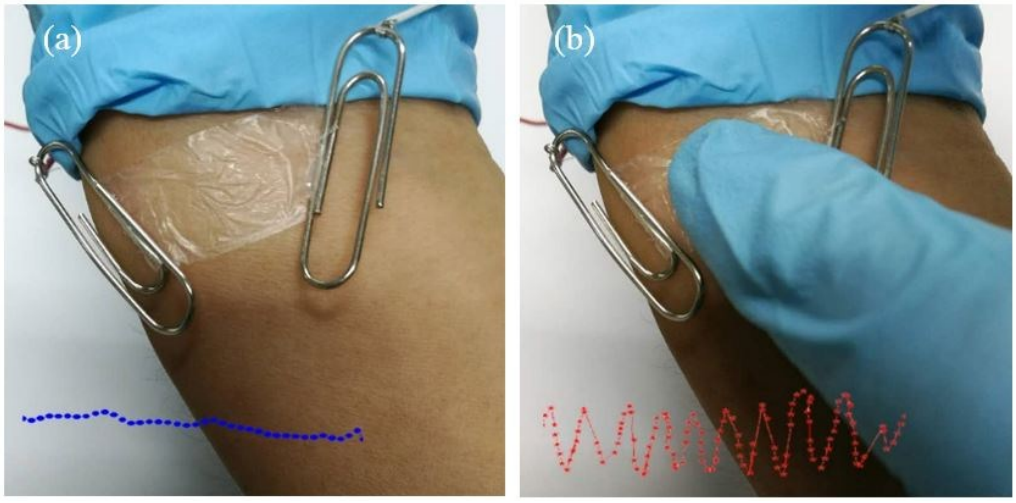

Fig. 5 Sphygmus wave detection for the wrist artery. The inset is the detected wave. (a) The g/PE sensor is on top of the wrist, and the graphene touches the skin. (b) The g/PE

sensor is on top of the wrist, pressed by a finger, and the graphene touches the skin.