Supporting Information

A Simple Route to Prepare Free-standing Graphene Thin Film for High-performance Flexible Electrode Materials

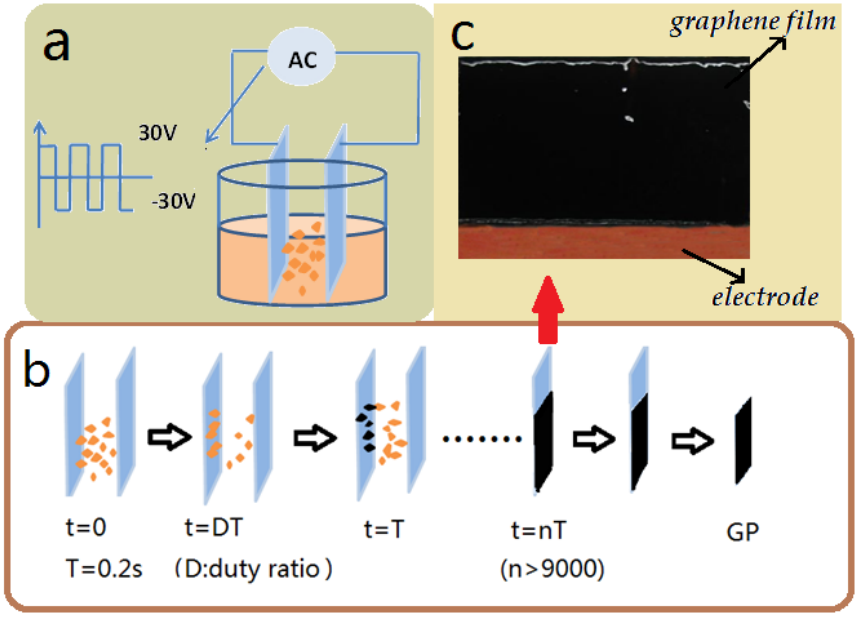
Yanyun Liu, Dong Zhang*, Yu Shang, Yong Liu

School of Material Science and Engineering, Tongji University, Caoan Road, Shanghai 200092, PR China

Corresponding author. Tel/fax: +86 21 69582144.

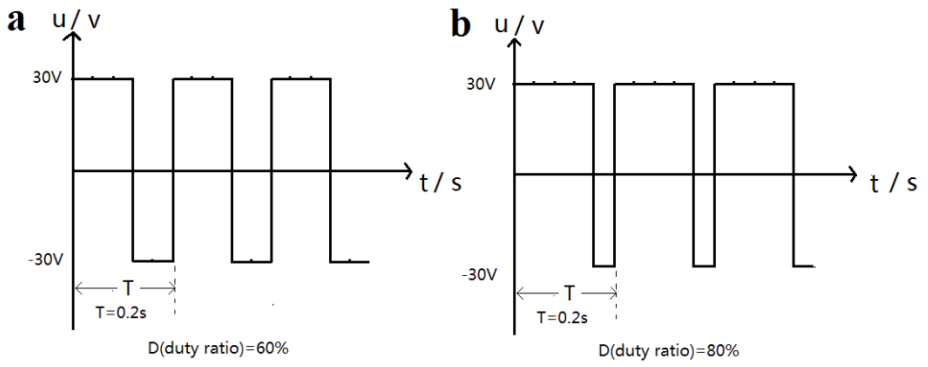
Email: zhangdng@tongji.edu.cn

1.



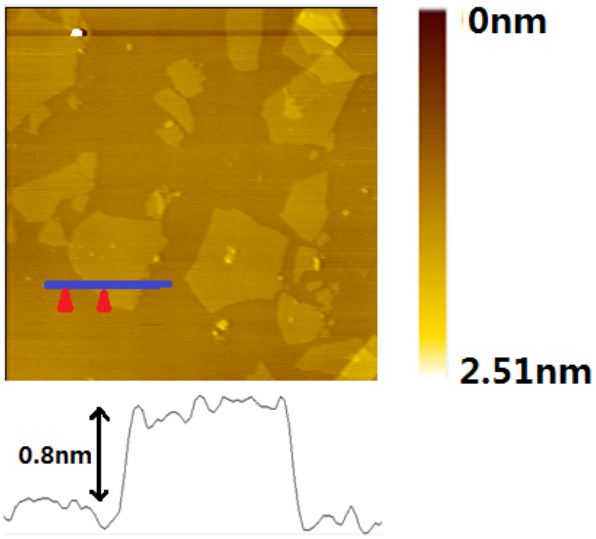
SFig.1. The setup of the electrochemical reaction process (a). Schematic illustration of the procedure for fabricating GP (b). Digital image of Cu electrode adsorbed graphene under 60% duty ratio for 3 h (c).

2. pulse wave



SFig.2 positive and negative pulse wave used in this study with duty ratio 60% (a) 80% (b).

3



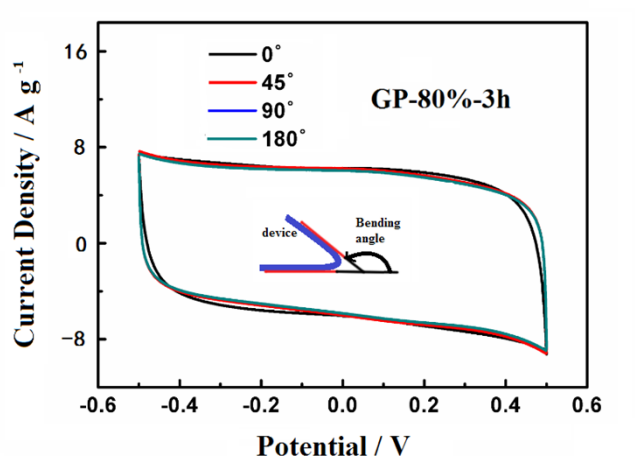
SFig.3 Tapping mode AFM image of the GO on mica substrate.

Atomic force microscopy (AFM) image of graphene were obtained on a SPI3800N probe station operating. Sample was prepared by depositing GO dispersions on freshly cleaved micas and allowing them to air-dry.

4

SFig.4 Digital image of Cu electrode adsorbed graphene obtained in electrochemical by direct current voltage applied

5



SFig.5 CV curves of device assembled by GP-80%-3h at a scan rate of 100 mV s^{-1} under different bending angles