Electronic Supplementary Information

High-Quality Graphene Transfer *via* Directional Etching of Metal Substrates

Xuewei Zhang [a,1], *Zehao Wu* [a,1], *Haoran Zheng* [a], *Qiancheng Ren* [a], *Zhenxing Zou* [a], *Le Mei* [a], *Zilong Zhang* [a], *Yang Xia* [b], *Cheng-Te Lin* [c], *Pei Zhao* [a,*], *Hongtao Wang* [a,*]

Supplemental figures

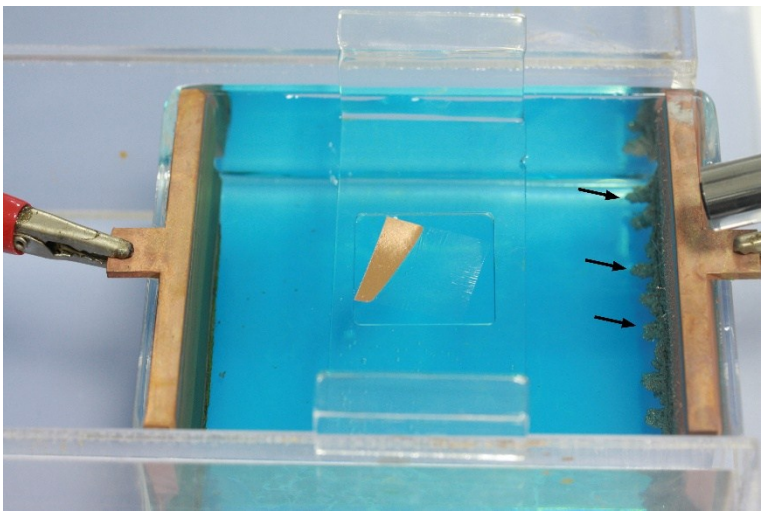

Fig. S1. The photo of the DE setup. The two 7.5 cm×4 cm×5 mm Cu electrodes are connected to the external circuit, and the distance of the two electrodes is around 8.5 cm. An optional current of the circuit is 0.15 A. The arrows indicate the accumulation of Cu from the electrochemical reaction.

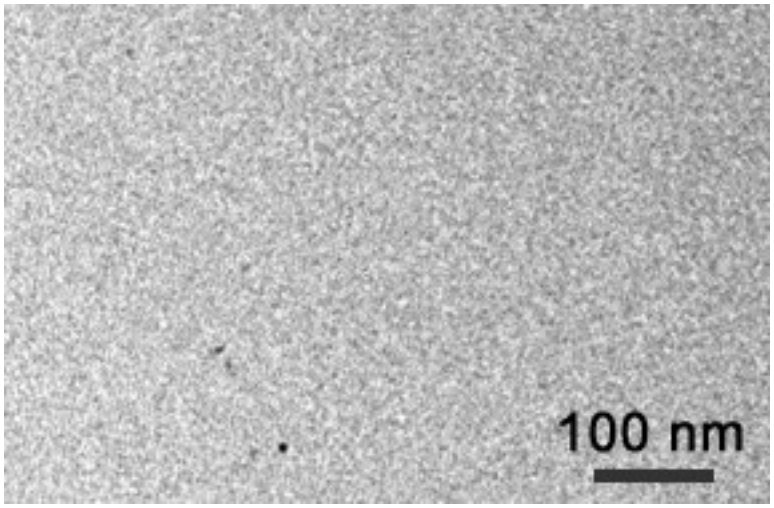

Fig. S2. TEM image of the DE-transferred graphene film on a TEM gird.

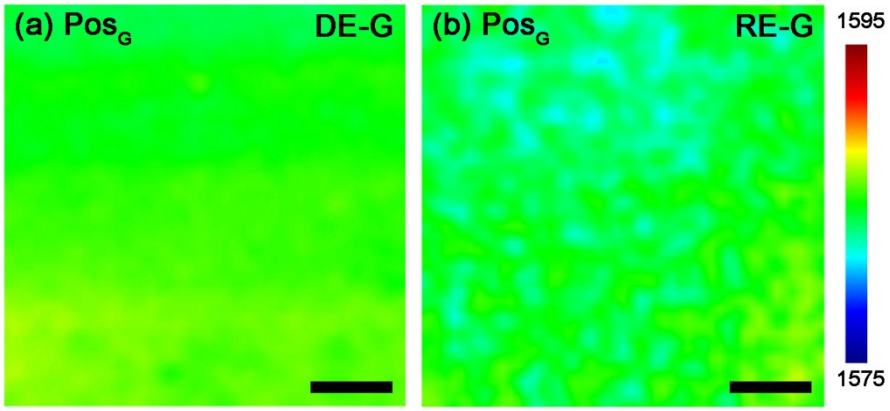

Fig. S3. The position maps of G peaks in DE- and RE-transferred graphene film. The scale bars are 100 μm.

Fig. S4. A photo of the four-point probe station. The inset is the zoomed view of the four points with 1 mm interval space.

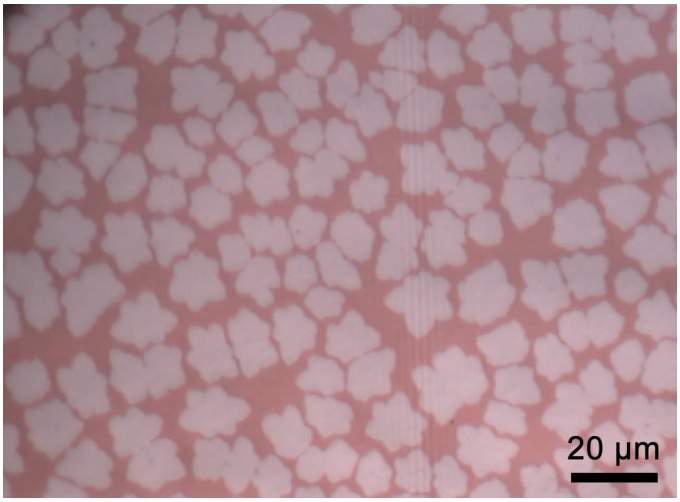

Fig. S5. The average domain size of this graphene samples is ~ 5–10 μm characterized by halted CVD experiments for incomplete graphene films.

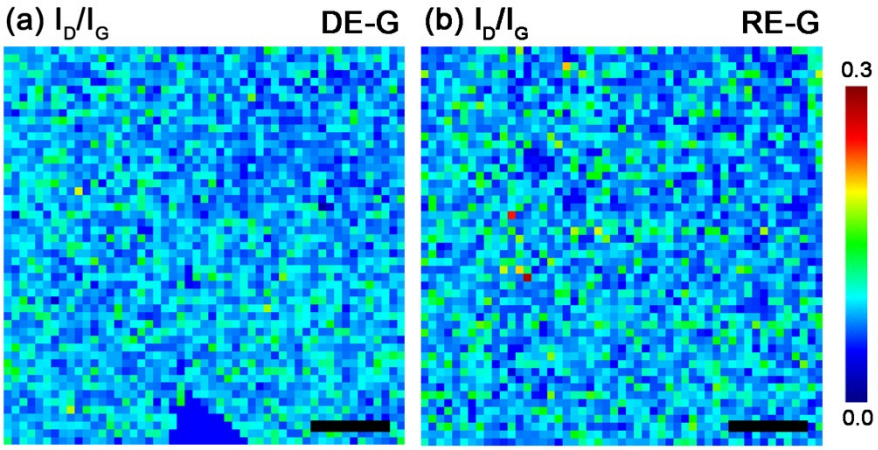

Fig. S6. The I_D/I_G maps in DE- and RE-transferred graphene film. The scale bars are 100 μm.