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Supplementary Information

Direct fabrication of photoconductive patterns on LBL assembled graphene oxide/PDDA/titania hybrid films by photothermal and photocatalytic reduction

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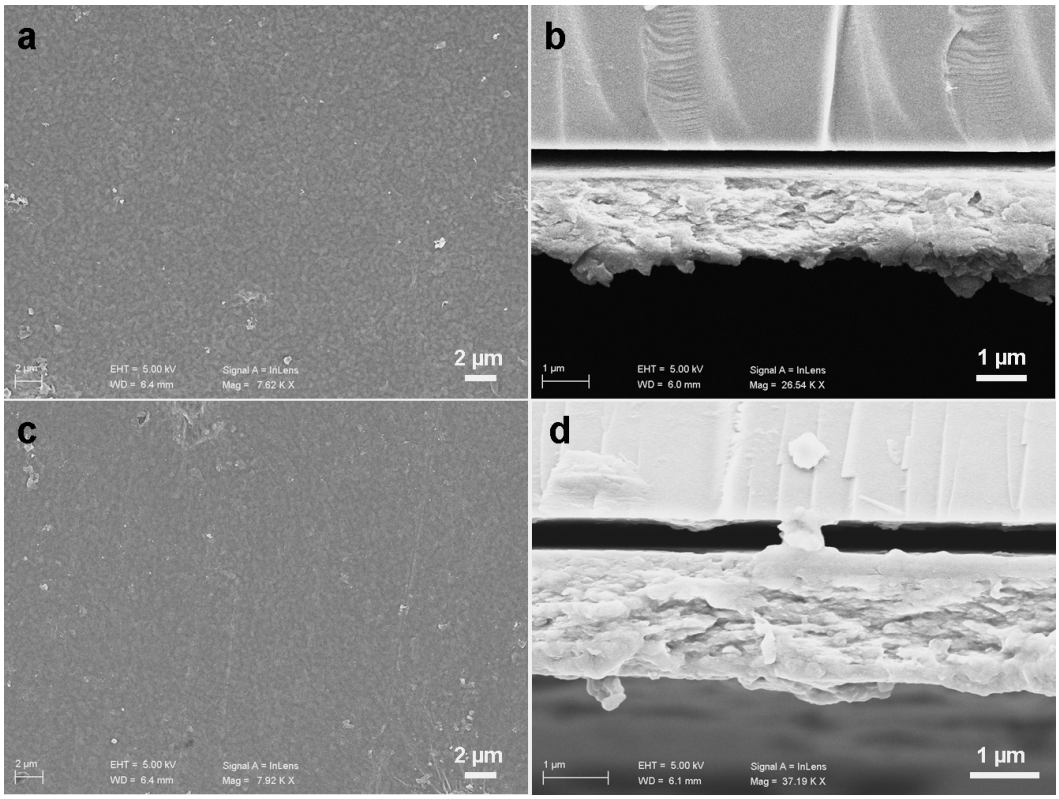

Fig. S1 SEM images of the surface (a,c) and cross section (b, d) of as-deposited (a,b) and reduced (c, d) $(PDDA/GO/PDDA/TiO)_{20}$ hybrid film.

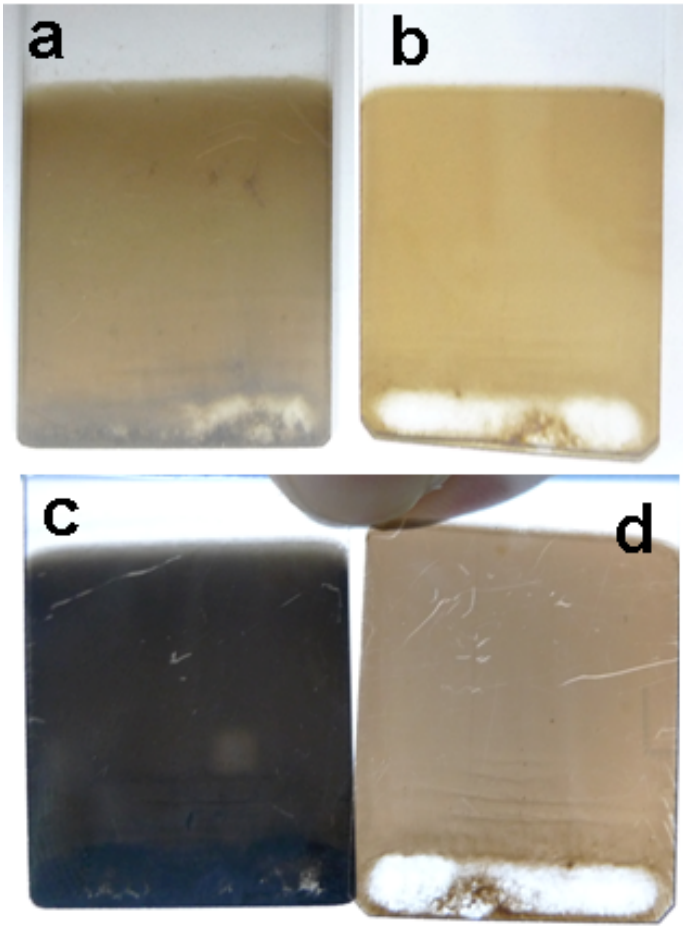

Fig. S2 Photographs of the hybrid films. (a) as-deposited $(PDDA/GO/PDDA/TiO)_{20}$ hybrid films and (c) after illuminated for 30 min. (b) as-deposited $(PDDA/GO)_{20}$ hybrid film and (d) after illuminated for 30 min. The color change of $(PDDA/GO)_{20}$ hybrid film after illumination indicated that the GO nanosheets can be reduced through illumination without TiO nanosheets which means that photothermal reduction also contribute to the reduction of GO to RGO. However, the color of $(PDDA/GO)_{20}$ hybrid film changed slower than that of $(PDDA/GO/PDDA/TiO)_{20}$ hybrid film which suggest that the TiO nanosheets accelerated the reduction process of GO nanosheets through photocatalytic role.