

Supporting Information for

**Three-Dimensional Nano-Foam of Few-Layer Graphene Grown
by CVD for DSSC**

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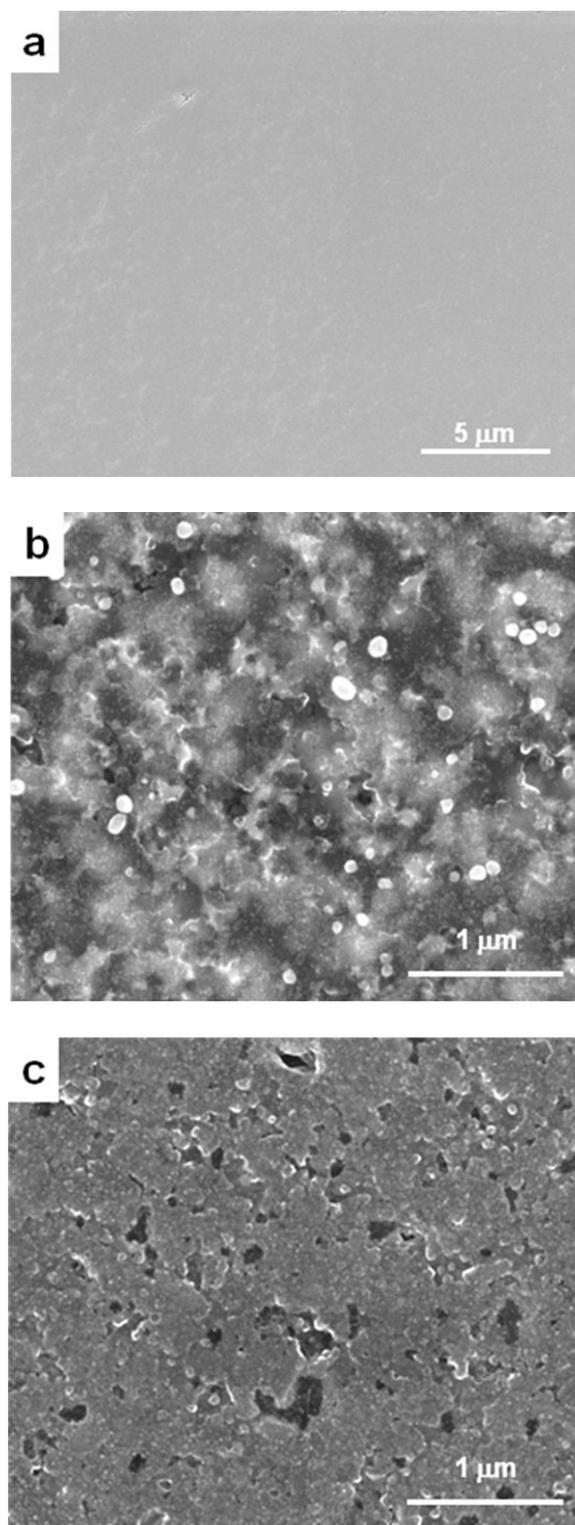


Fig. S1 SEM Images: (a) Pristine PVA /NiCl₂•6H₂O composite film, (b) 3D-NFG containing nickel (after annealing sample of a). (c) 3D-NFG (after etching nickel of sample b).

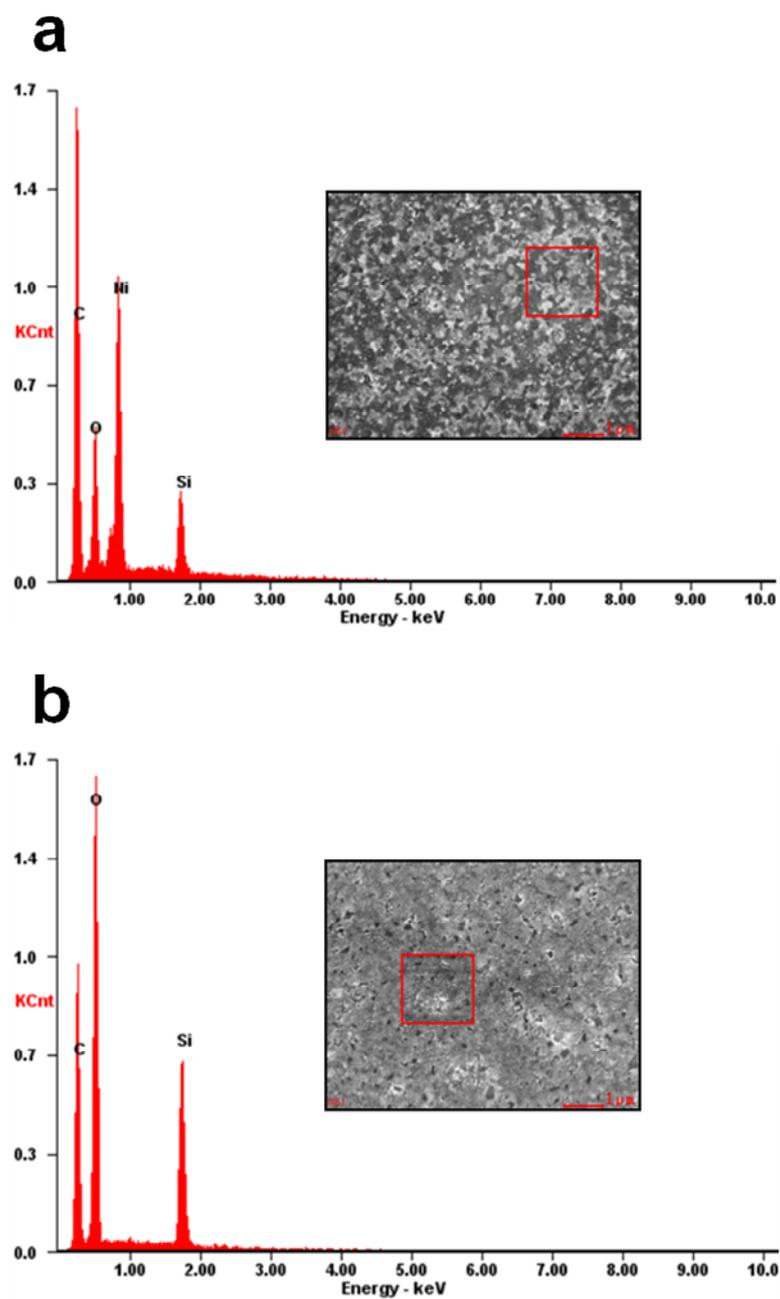


Fig. S2 Energy dispersive X – ray energy spectroscopy. (a) 3D-NFG containing nickel (after annealing PVA /NiCl₂•6H₂O composite film). (b) 3D-NFG (after etching nickel of sample a).

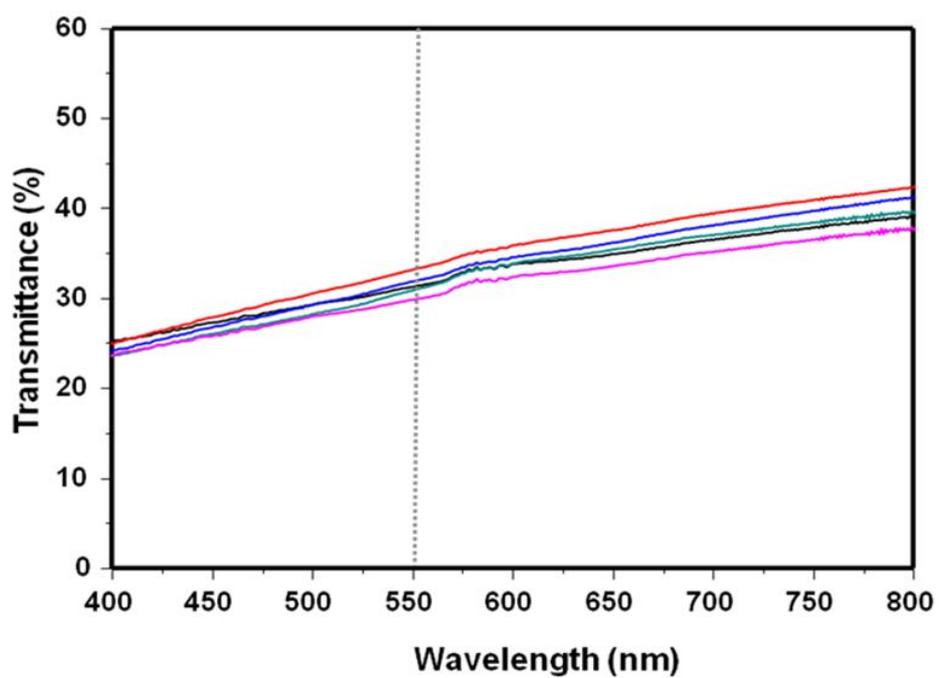


Fig. S3 UV-vis spectra of 3D-NFG films transferred on PET substrates.: The samples have similar UV absorption peaks for 5 different samples.

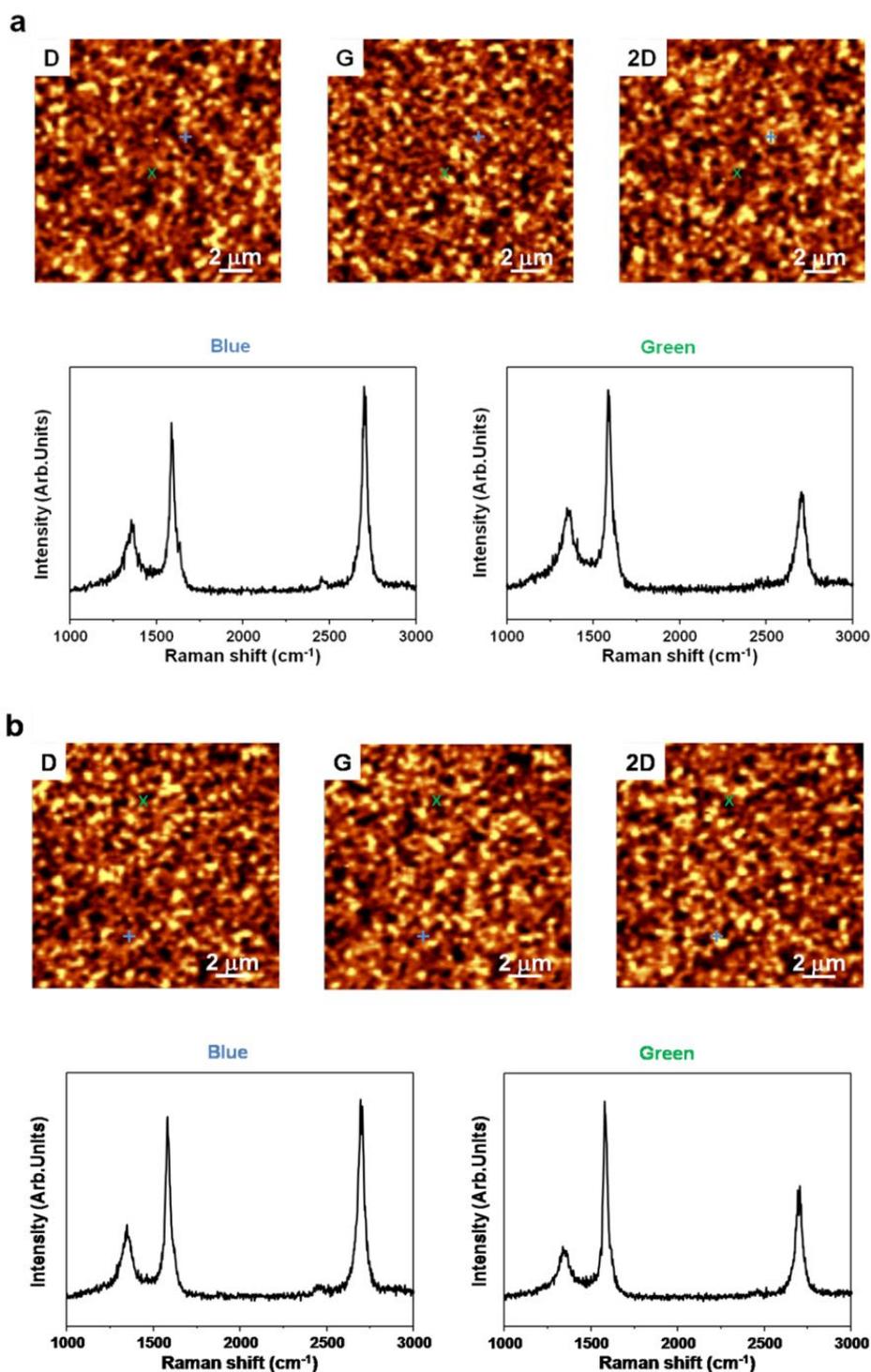


Fig. S4 Raman mapping spectra of 3D-NFG (annealed PVA/NiCl₂•6H₂O 350phr). (a) and (b) are as-grown and after etching nickel of sample a. The wavelength of the excitation laser was 532 nm and the power of the laser was below 2 mW to prevent significant sample heating (a 100x objective lens (numerical aperture = 0.90) and 0.2 s of accumulation time were adopted).

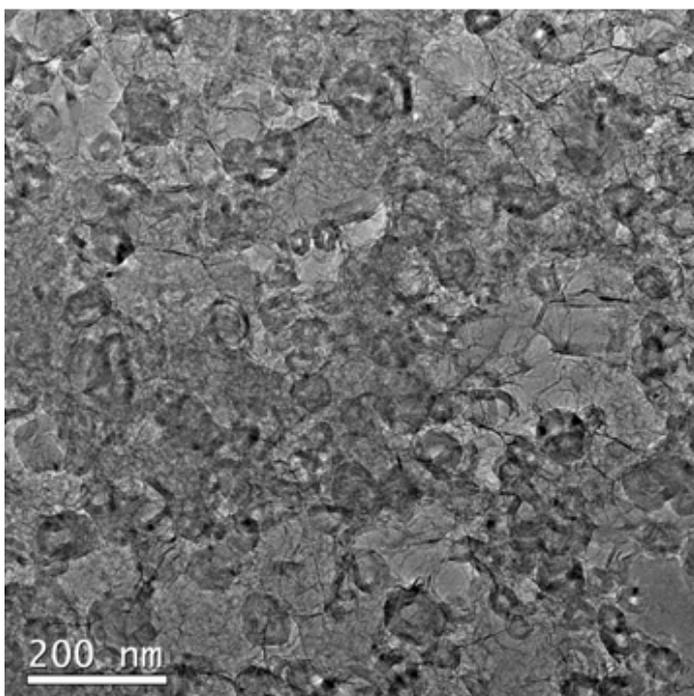
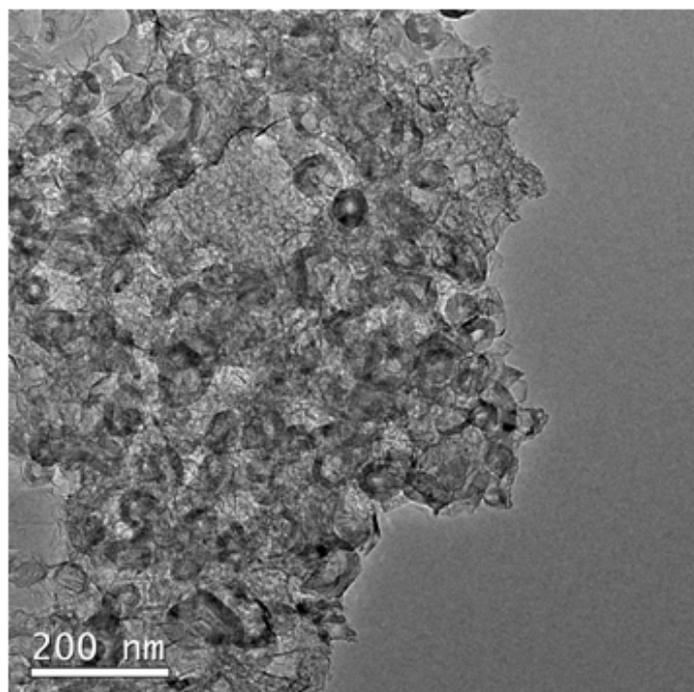


Fig. S5 TEM images of 3D-NFG taken from various areas.

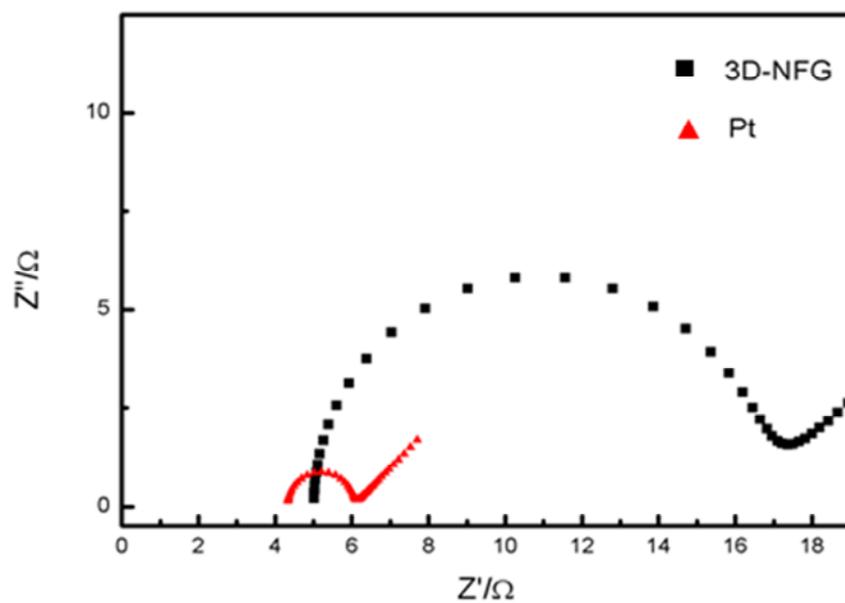


Fig. S6 The impedance spectra for the devices with Pt reference and 3D-NFG.