Electronic supplementary information

Edge-nitrogenated graphene nanoplatelets as high-efficiency counter electrode for dye-sensitized solar cells

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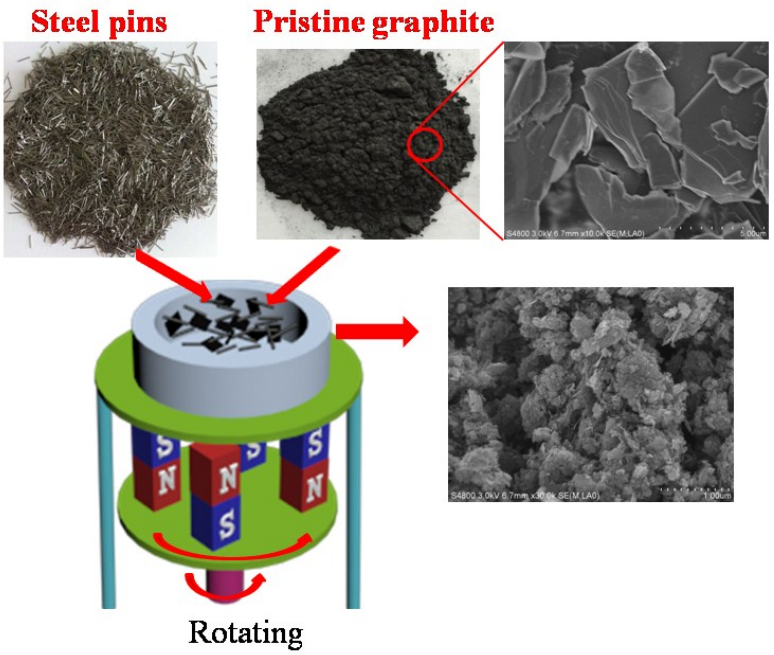

Fig. S1 Schematic illustration of the preparation of ENGNPs

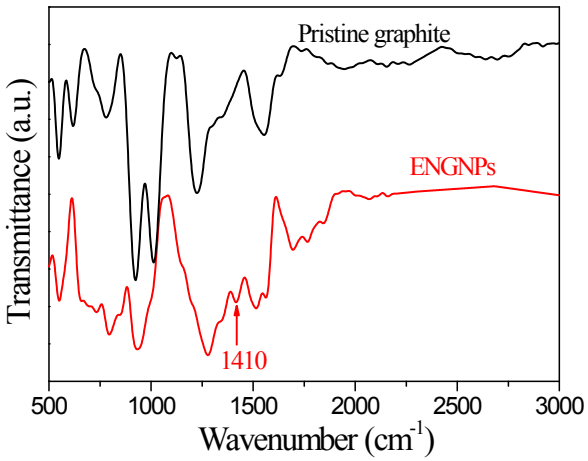

Fig S2 FTIR spectra of pristine graphite and ENGNPs

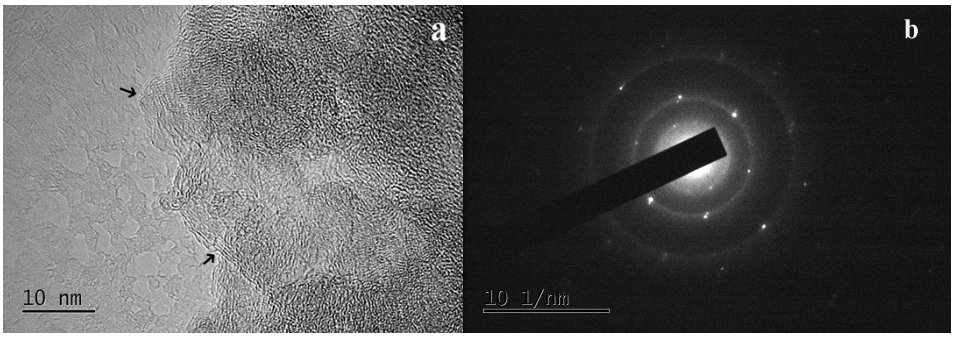

Fig. S3 (a) High-resolution TEM image of ENGNPs, showing strips (see arrows) indicating high crystallinity; (b) the corresponding selected area electron diffraction pattern of ENGNPs

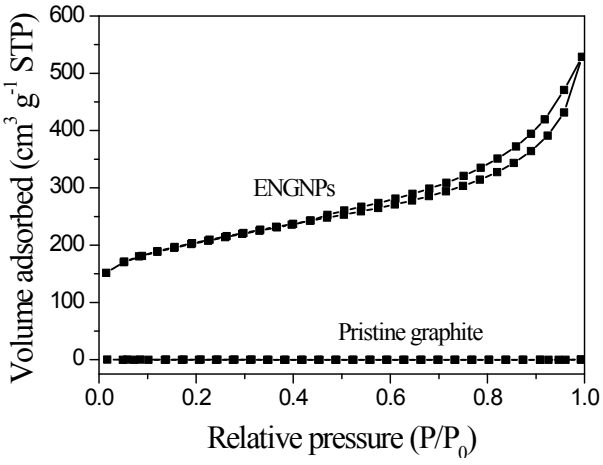

Fig. S4 Nitrogen adsorption-desorption isotherms of ENGNPs and pristine graphite

Table S1 BET surface area and pore volume of ENGNPs and pristine graphite

Samples	S_{BET} [a] (m^2 g^{-1})	V_T [b] (cm^3 g^{-1})
Pristine graphite	0.27	-
ENGNPs	679.15	0.818

[a] BET surface area; [b] total pore volume

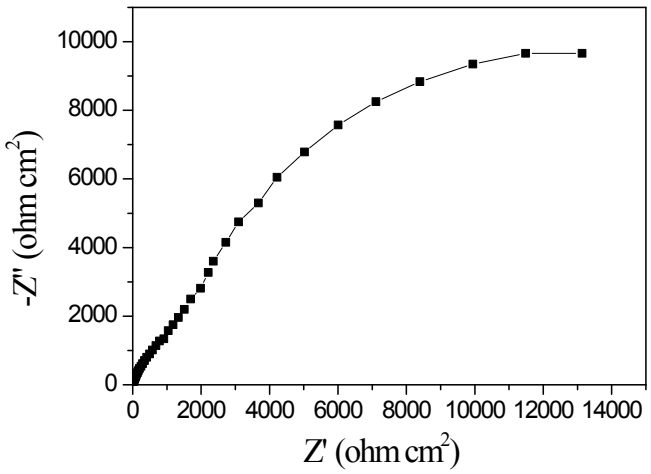

Fig. S5 Nyquist plot of bare FTO glass. The R_{ct} of bare FTO glass is quite large, and even found to be far beyond the measurement limit, indicating a very poor electrocatalytic activity.

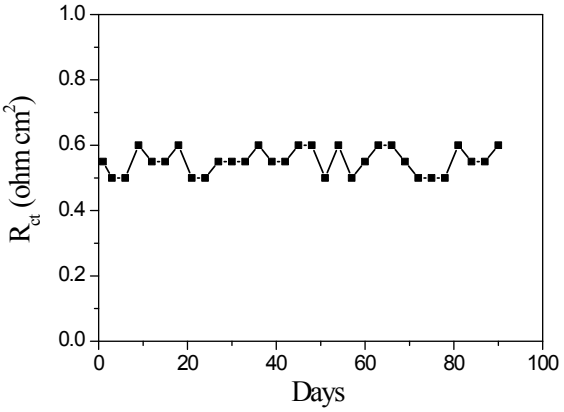

Fig. S6 Variation of R_{ct} of ENGNP4 electrode with time.

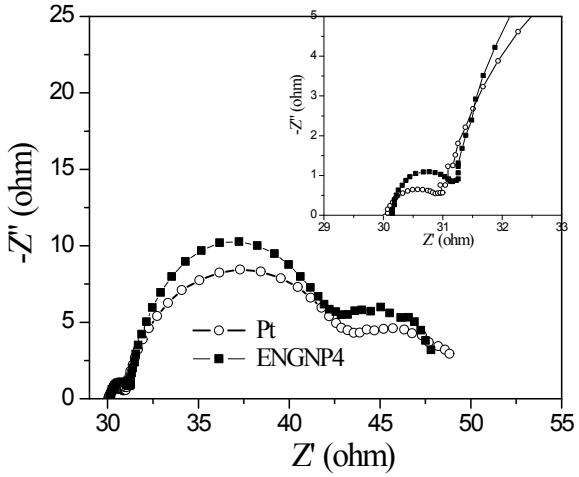

Fig. S7 Nyquist plots of DSCs with ENGNP4 and Pt electrodes under 1 sun illumination at open-circuit condition. The inset is the semicircle at the highest frequency region.

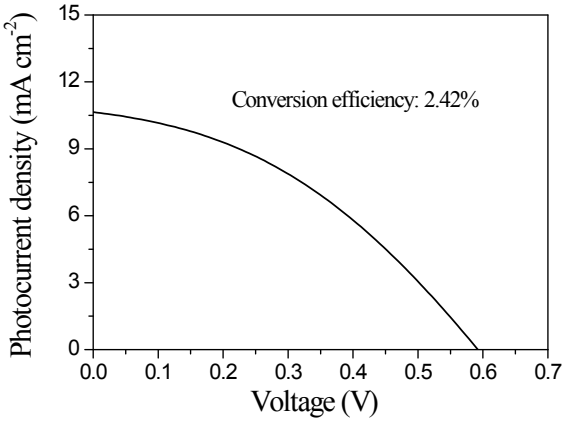

Fig. S8 Photocurrent density-voltage curve of the DSC with pristine graphite counter electrode