Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supplementary Information

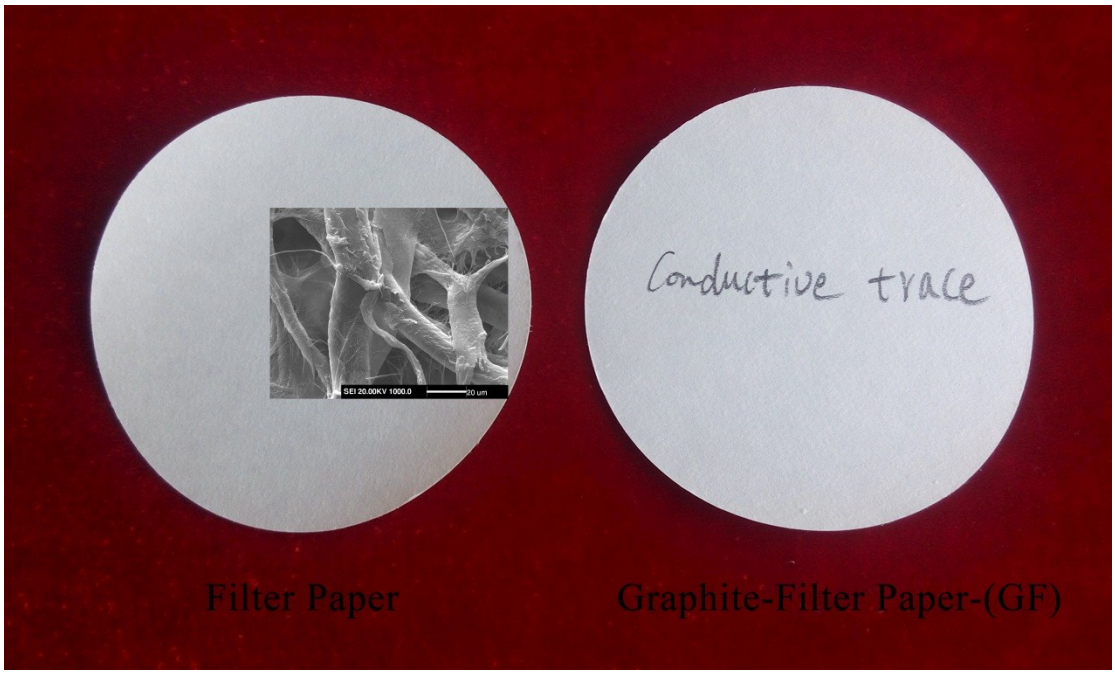

Fig. S1 The optical images of bare filter paper (a) and GF substrate (b). Insert in (a) is the SEM image of the bare filter paper.

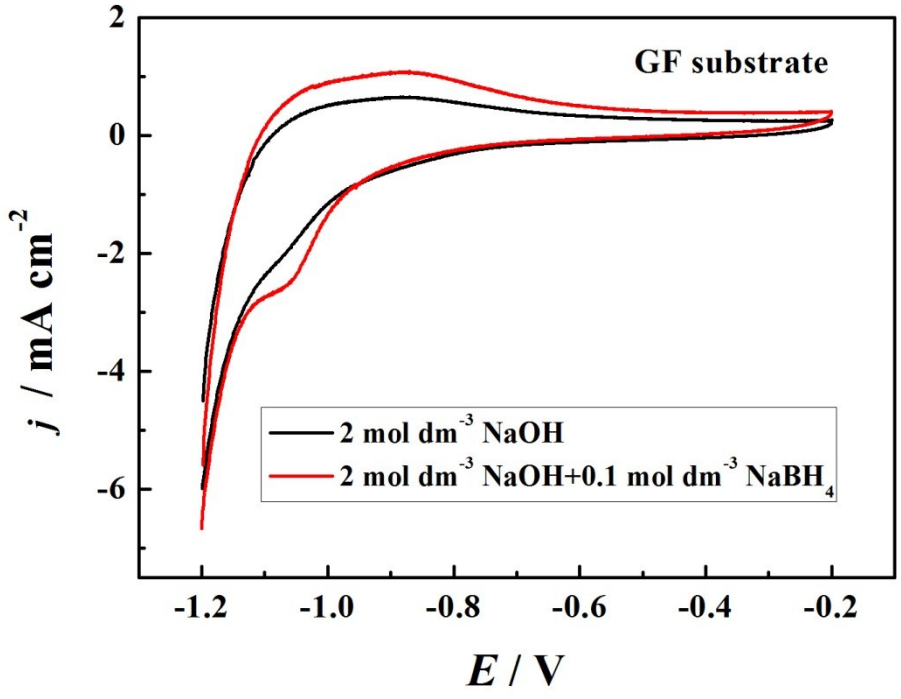

Fig. S2 The CVs of GF substrate in NaOH with and without $NaBH_4$. Scan rate: 20 mV s^{-1}, NaOH: 2 mol dm^{-3}, $NaBH_4$: 0.10 mol dm^{-3}.

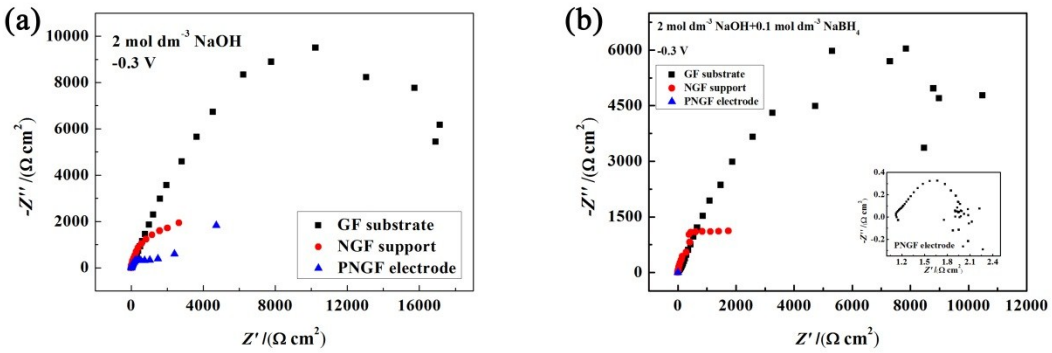

Fig. S3 The EIS of GF substrate, NGF support and PNGF in the 2 mol dm^{-3} NaOH solution without (a) and with (b) 0.1 mol dm^{-3} $NaBH_4$ at -0.3 V, insert in (b) is the enlarged view of EIS of PNGF in 2 mol dm^{-3} NaOH and 0.1 mol dm^{-3} $NaBH_4$.

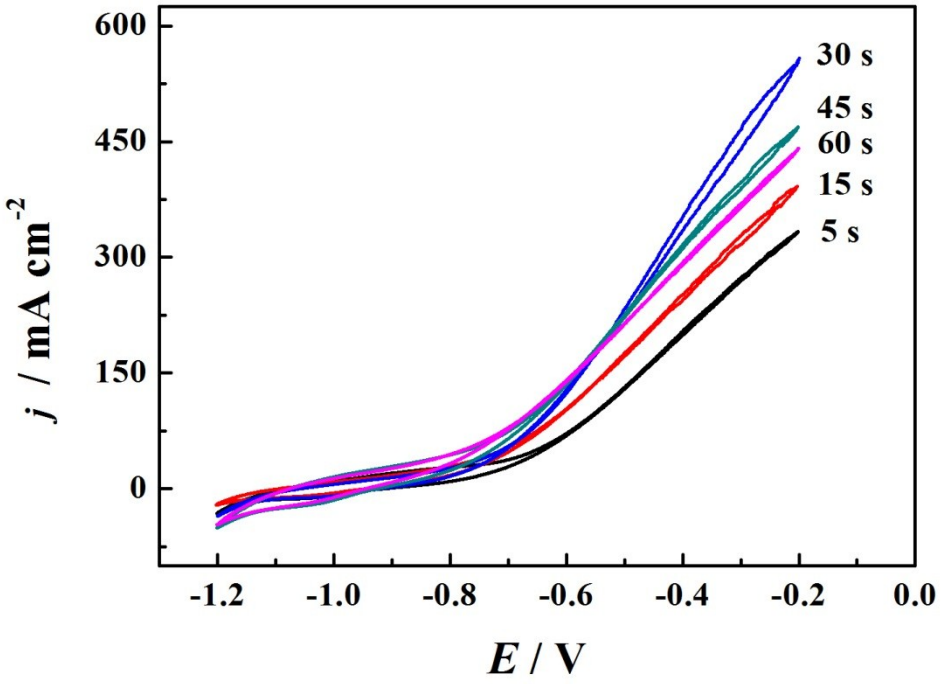

Fig. S4 The CVs of PNGF electrodes with different galvanic replacement time (5 s to 60 s). Scan rate: 20 mV s^{-1}, NaOH: 2 mol dm^{-3}, $NaBH_4$: 0.10 mol dm^{-3}.

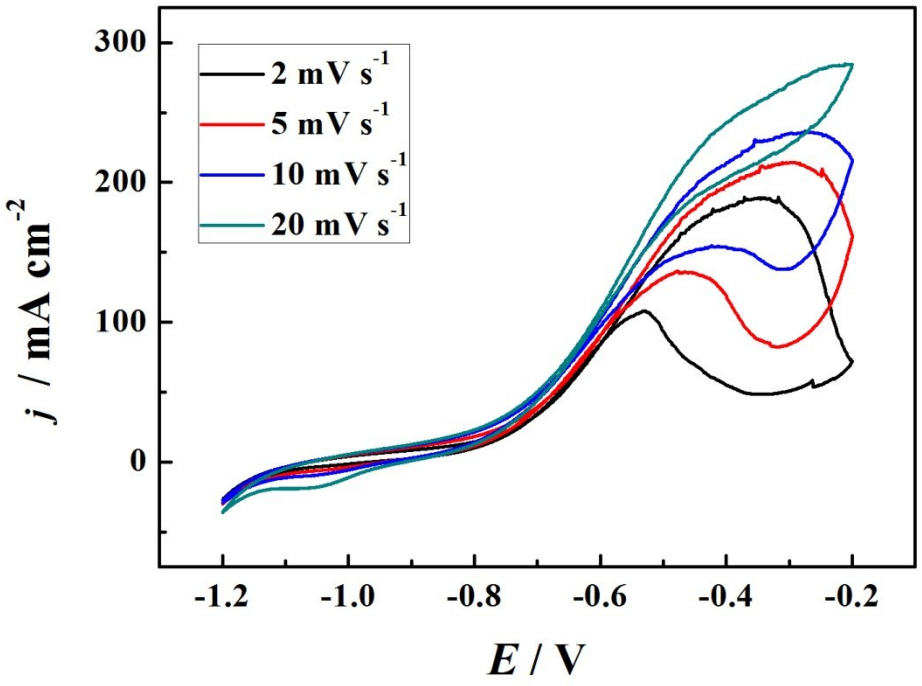

Fig. S5 The CVs of PNGF electrodes with different scan rates (2 s to 20 mV s^{-1}).

NaOH: 2 mol dm^{-3}, $NaBH_4$: 0.10 mol dm^{-3}.

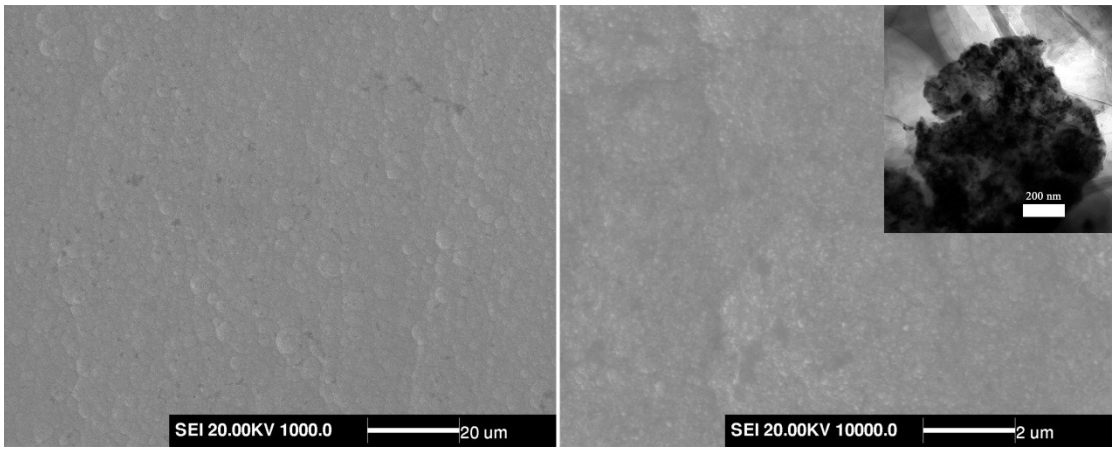

Fig. S6 The SEM images of PNGF at low (a) and high (b) magnifications, and the corresponding TEM image (the insert of b) after the electrochemical tests.