Supporting Information

Nitrogen-Doped Reduced Graphene Oxide and aniline based redox additive electrolyte for a Flexible Supercapacitor

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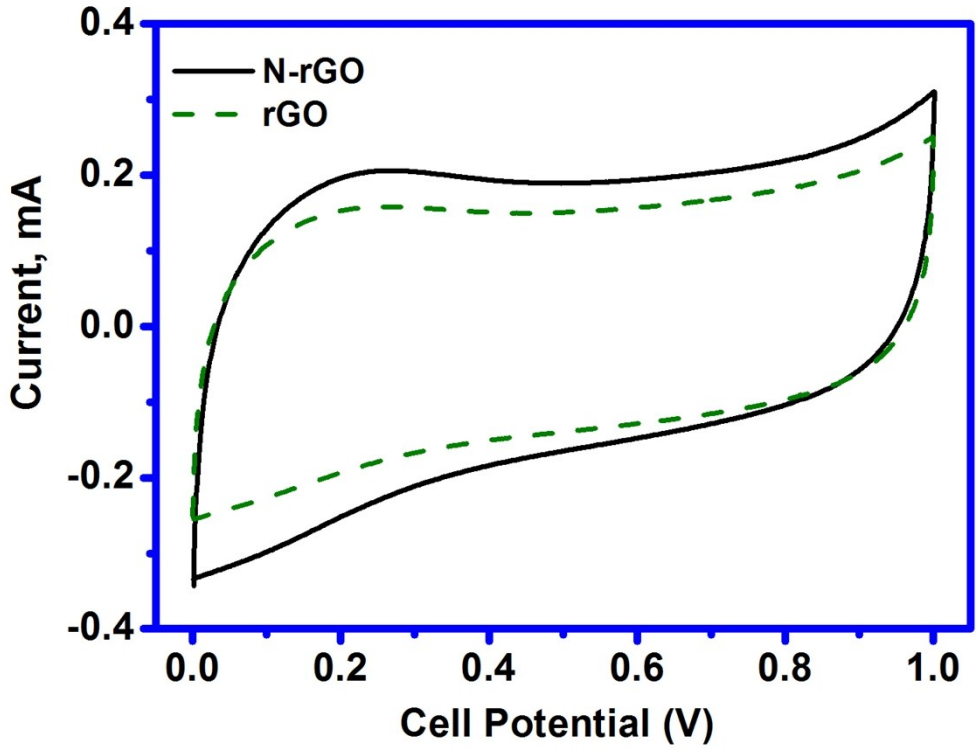

Fig. S1. Comparative CV curve of rGO and N-rGO at 5 mV s^{-1}.

As is known that the area under the CV curve infers the amount of charge stored in the device. It can be seen that the rGO device stores lesser amount of charge than N-rGO. It may be due to doping of N atoms because it leads to provide additional pseudocapacitance to the device, and improves the wettability of the electrode. Hence, the device N-rGO exhibits higher length capacitance than rGO.

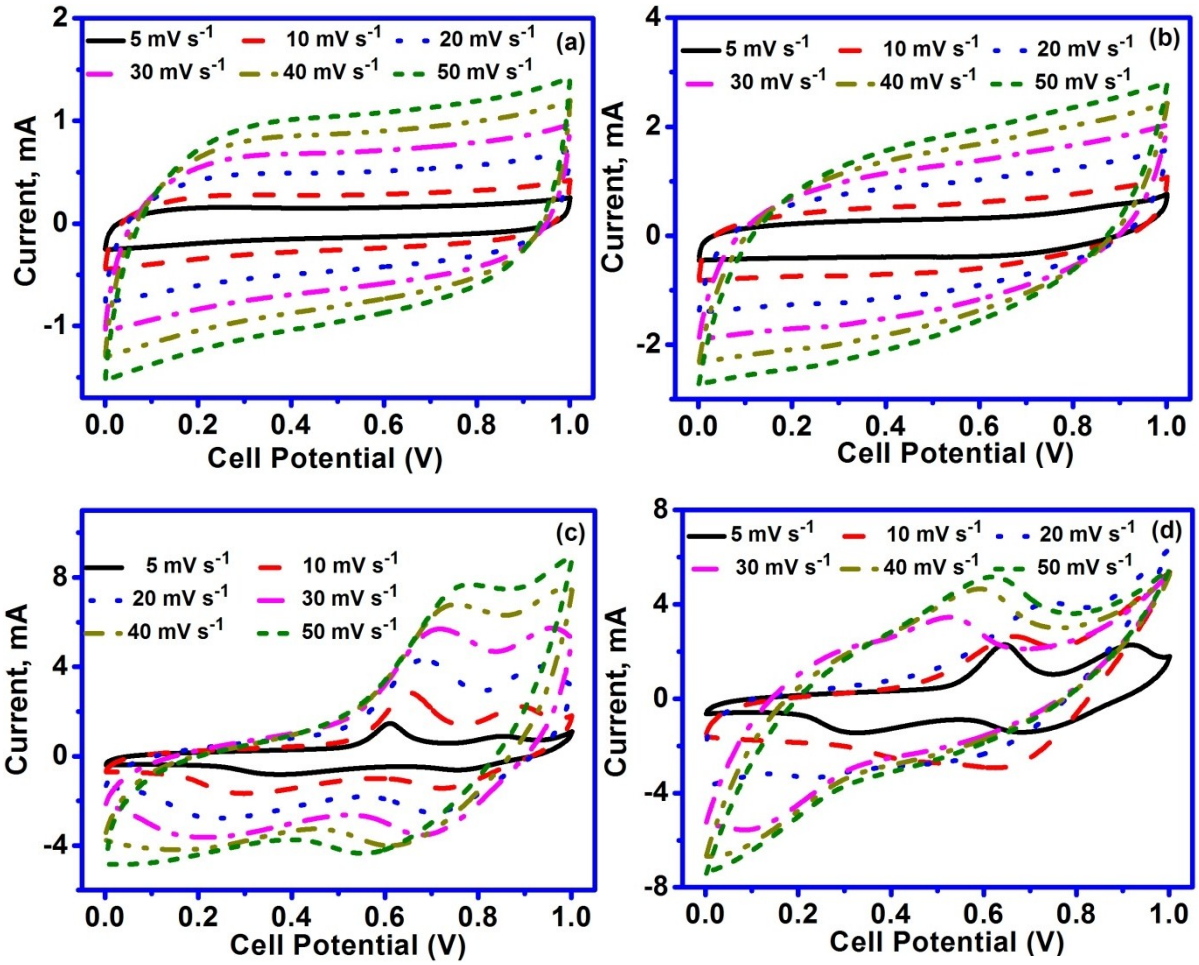

Fig. S2. CV curves of rGO fiber supercapacitor at various scan rates in (a) PAH000, (b) PAH025, (c) PAH050, and (d) PAH100.

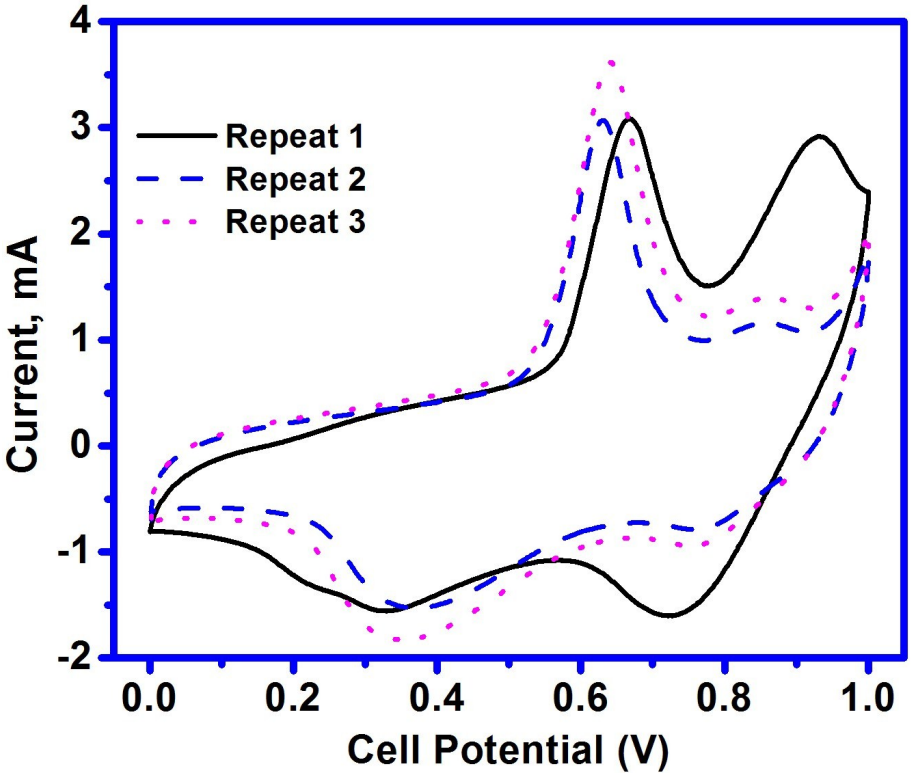

Fig. S3. Repeated electrochemical performance of devices in PAH075 at 5 mV s^{-1}.

In order to confirm the reproducibility of the data, the electrochemical performances are investigated for the freshly prepared electrode of PAH075 (optimized condition). The well-defined redox peaks and also current area under the CV curve are same while repeating the experiments. It clearly evidenced the good electrochemical performance of the device in PAH075. Further, the length capacitances of the device were calculated such as 2.04, 2.5 and 2.3 F m^{-1}. There was no significant difference is observed in length capacitance which illustrated the reproducibility of the data.