

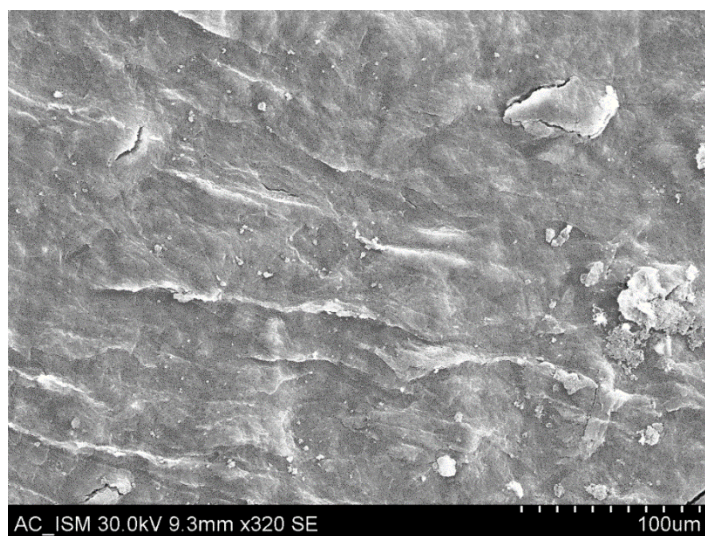
SUPPORTING INFORMATION for

Nanoclay based graphene polyaniline hybrid nanocomposite: A promising
electrode material for supercapacitor

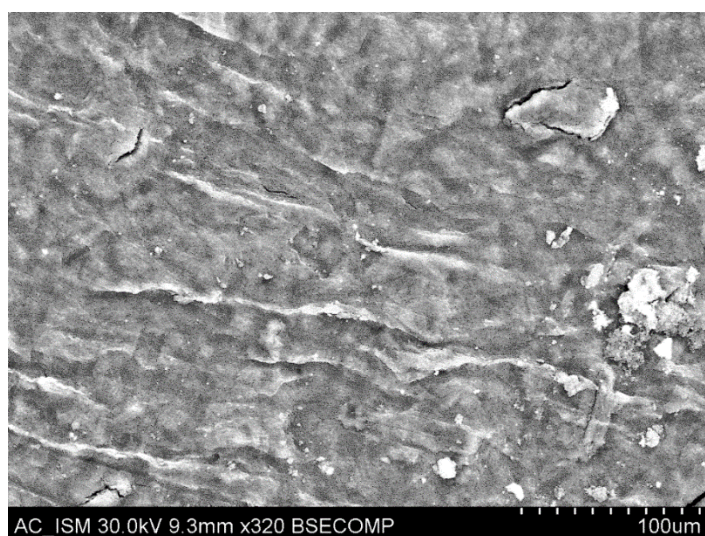
R.Oraon^a, A.De.Adhikari^a, S.K.Tiwari^a and G.C.Nayak^{a*}

^aDepartment of Applied Chemistry, ISM Dhanbad, Dhanbad 826004, Jharkhand, India

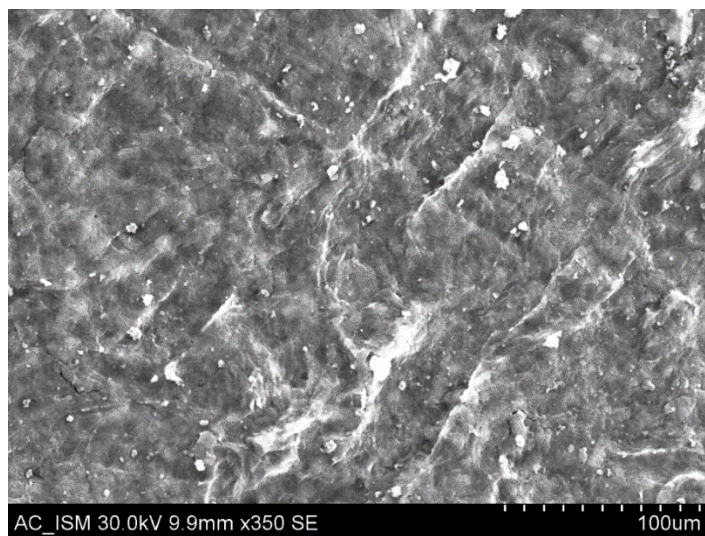
SEM images of GAN and GNA in SE and BSE mode.



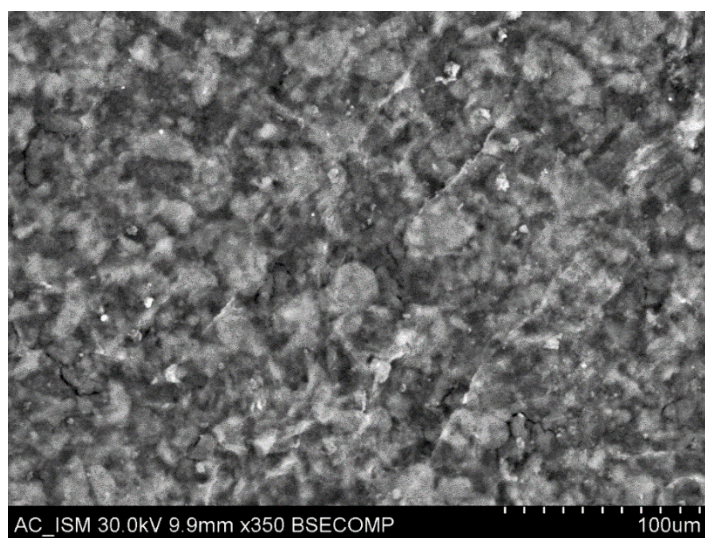
(a)



(b)



(c)



(d)

Figure S1: SEM image of (a) GNA in SE mode, (b) GNA in BSE mode, (c) GAN in SE mode and (d) GAN in BSE mode.

From the SEM images, in SE and BSE mode, it is observed that the change in contrast in the image of both the nanocomposites are uniform all through the samples which is an indication of uniform distribution of nanoclay in the whole sample and its not phase separated from the other components.

EDX analysis of GAN and GNA

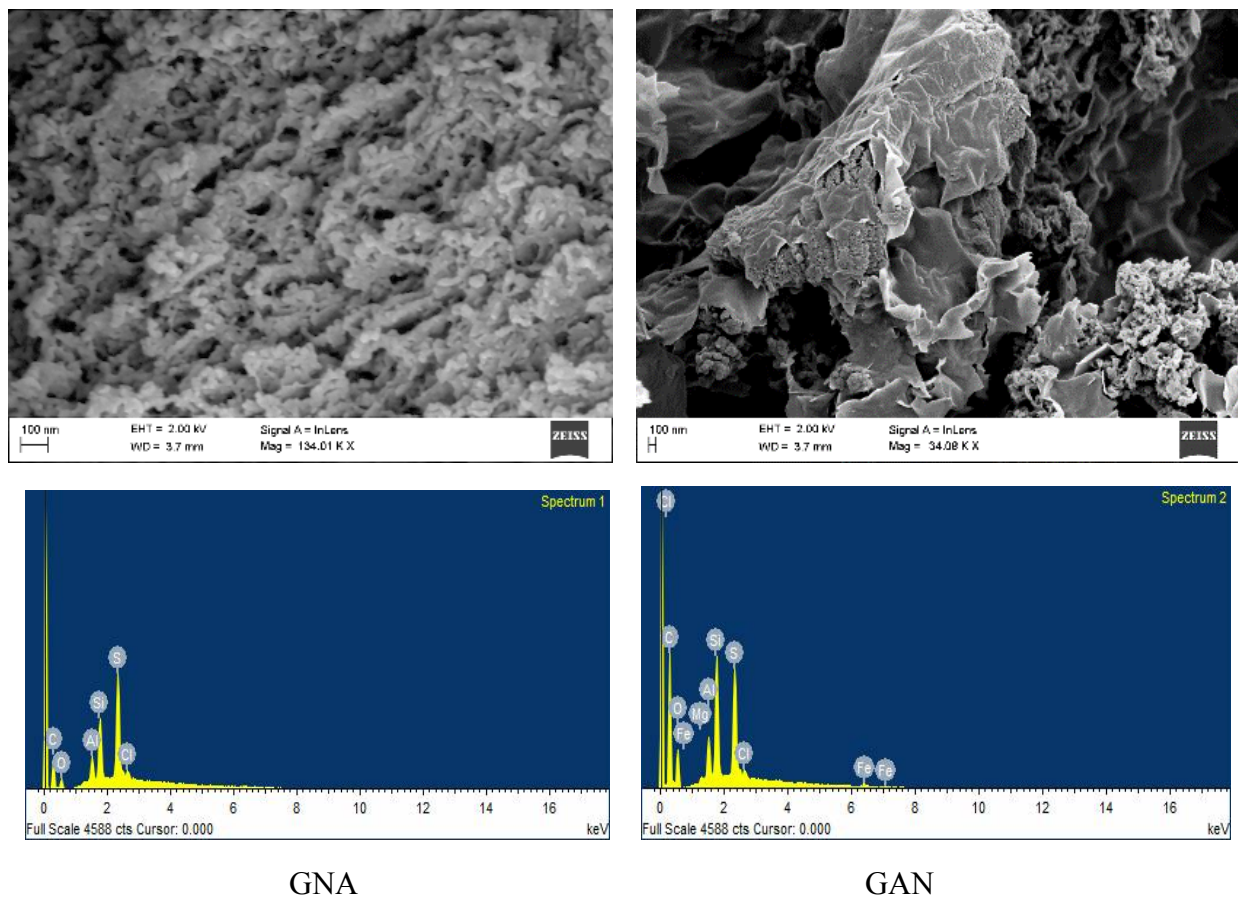


Figure S2: FESEM and EDX (taken over the whole surface) analysis of GNA and GAN which shows the presence of nanoclay based elements in the EDX plot which confirmed the presence of nanoclay in the selected regions.

XRD plot of GAN and GNA at higher 2θ

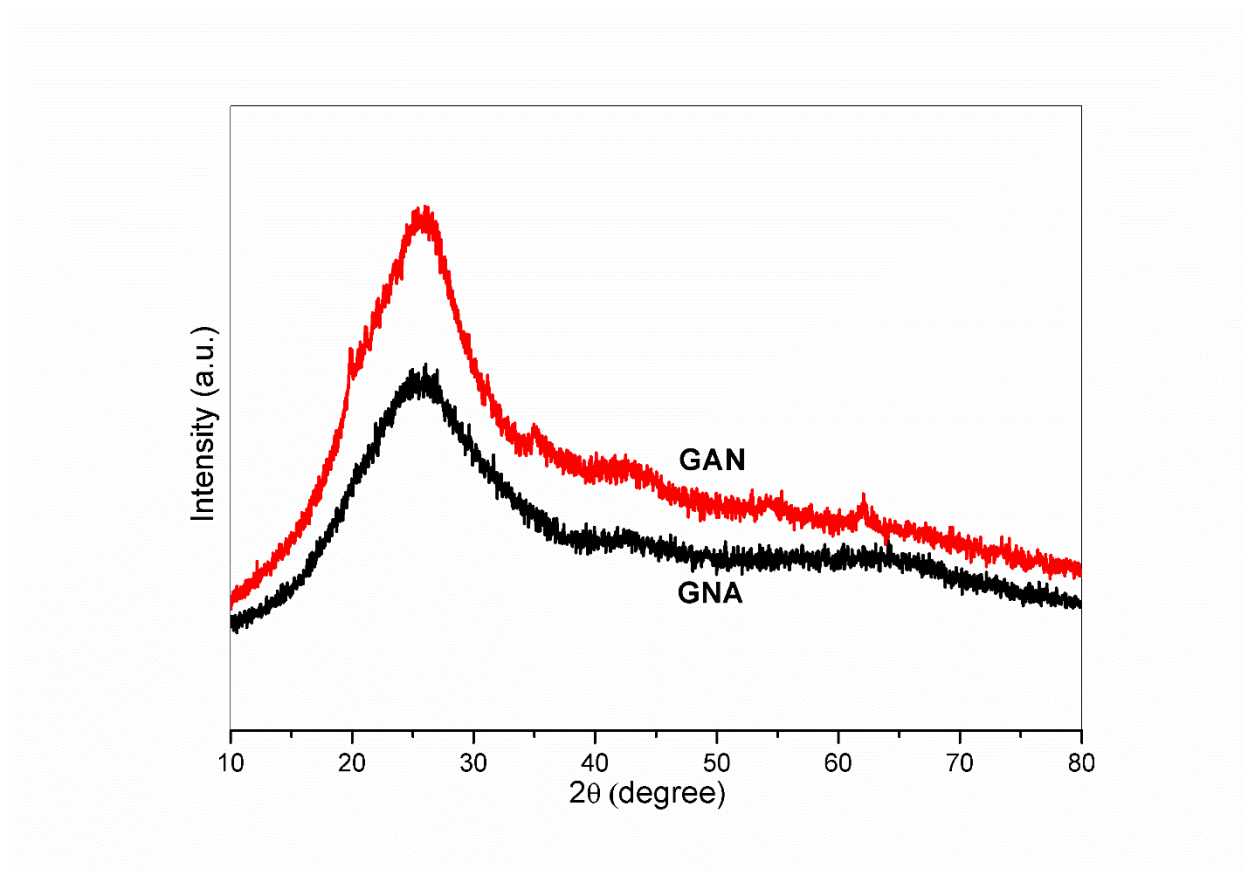
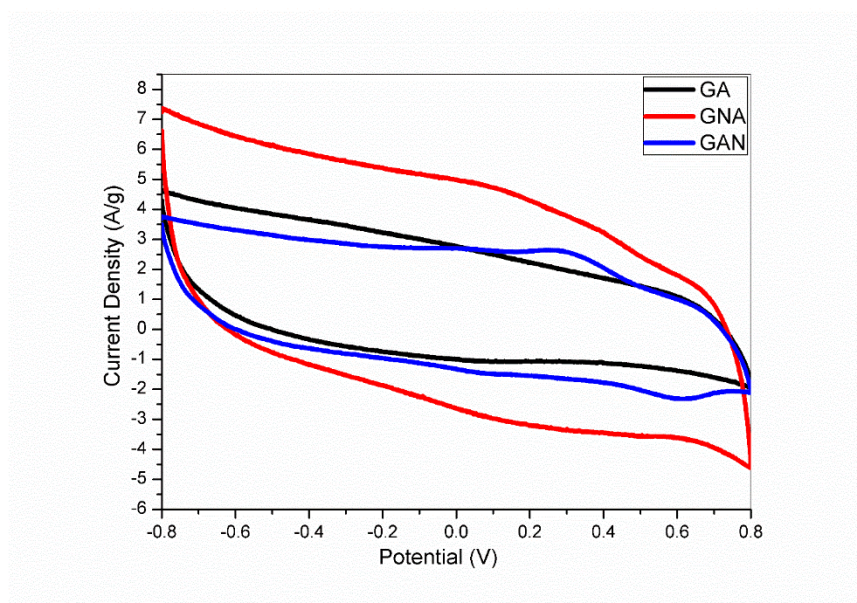
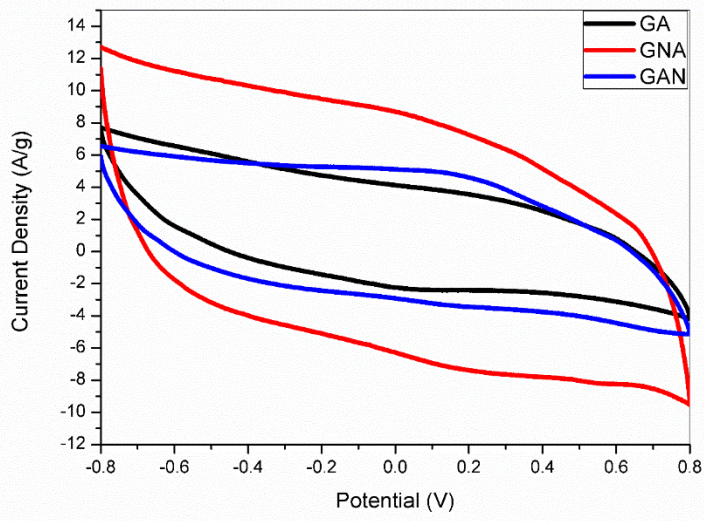


Figure S3: XRD plot of GAN and GNA at higher 2θ

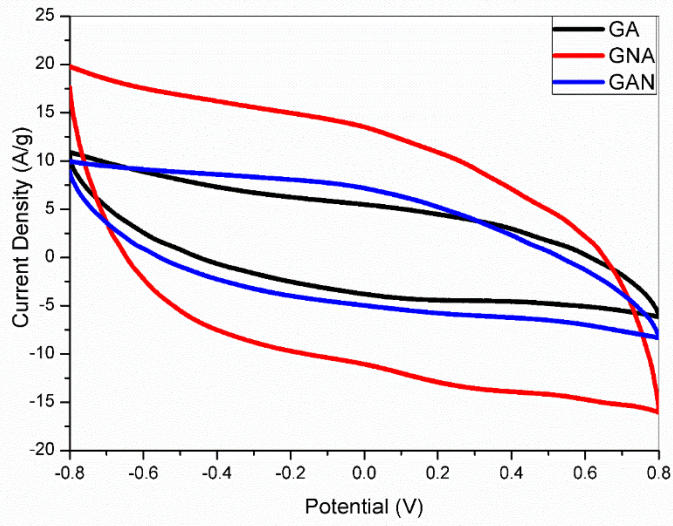
CV plots of GA, GNA and GAN at different scan rates



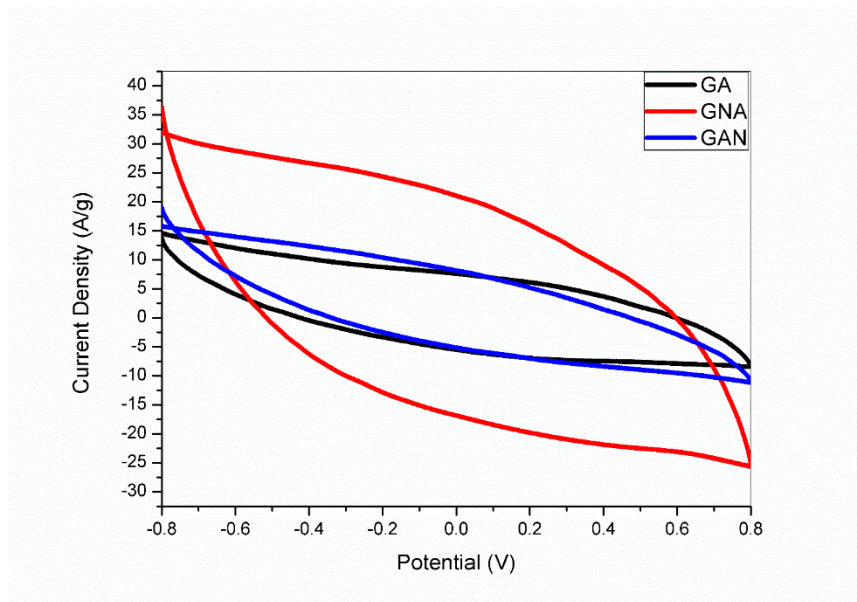
(a)



(b)



(c)



(d)

Figure S4: CV plot of GA, GAN and GNA at scan rates of (a) 20 mV/s, (b) 50 mV/s, (c) 100 mV/s and (d) 200 mV/s

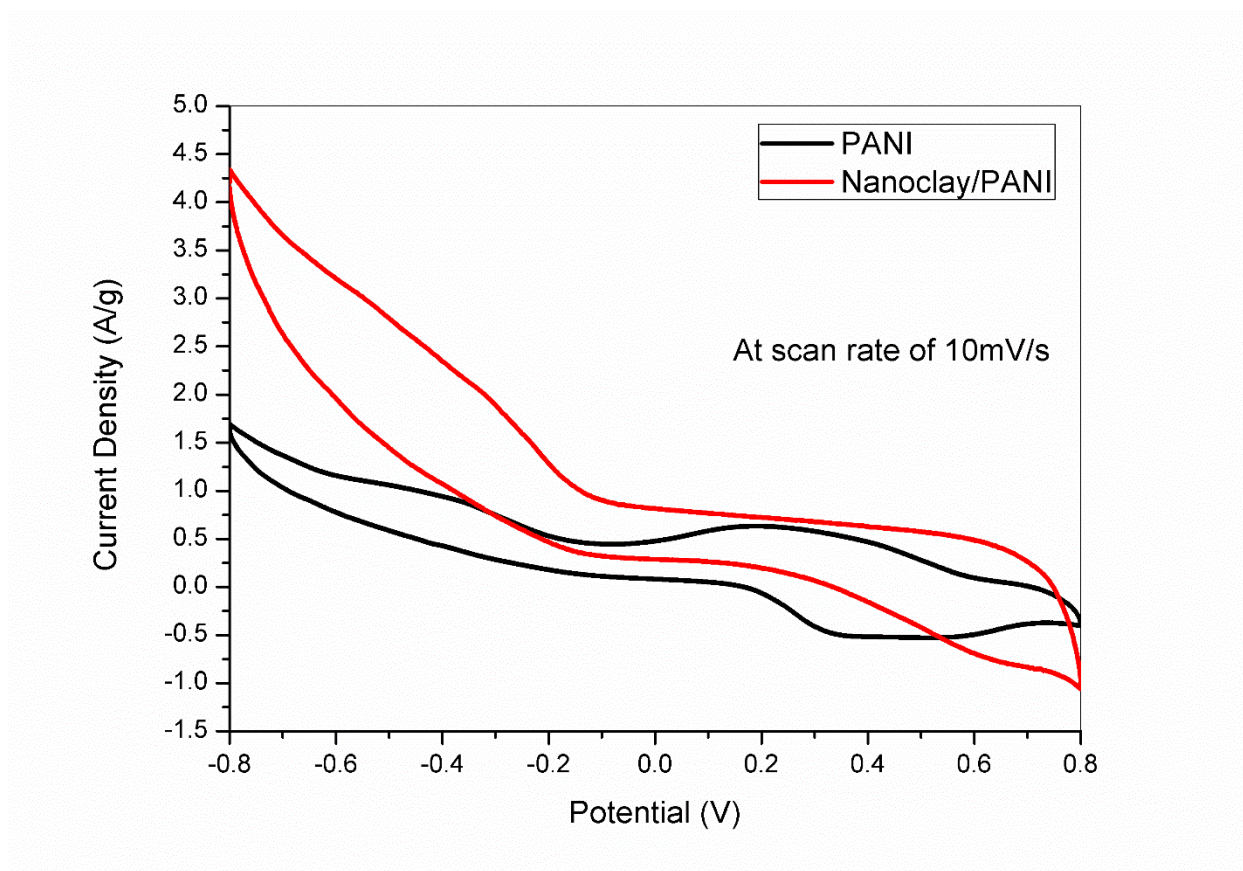


Figure S5: CV plot of PANI and Nanoclay/PANI at scan rate of 10mV/s