In order to check the stability of the Ni-RGO_6h sample (almost 8 weeks after synthesis) at 85°C in 75-85% relative humidity range, we have performed Raman spectrum of the composite as shown in Figure S1.

From the spectra, it has been observed that, the position of D and G bands as well as the $I_D/I_G$ ratio are quite similar to the freshly prepared sample. This confirms the stability of the sample even after 8 weeks.
We have performed the dielectric permittivity as a function of frequency for cobalt atom doped reduced graphene oxide at room temperature as shown in Figure S2.

**Figure S2** Variation of dielectric permittivity with frequency for cobalt doped reduced graphene oxide sample at room temperature.