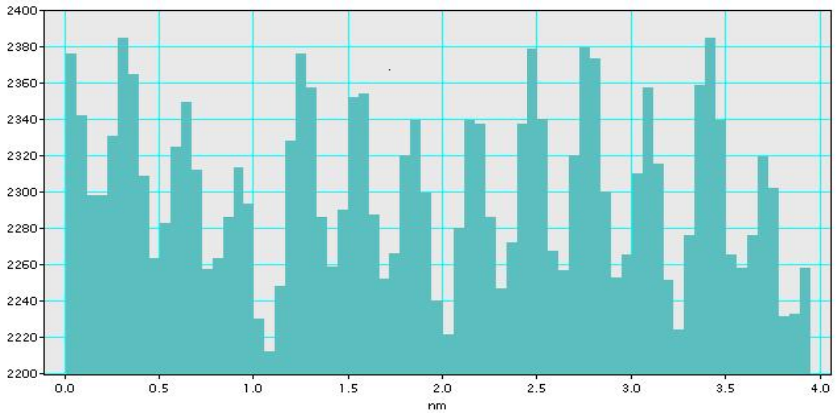
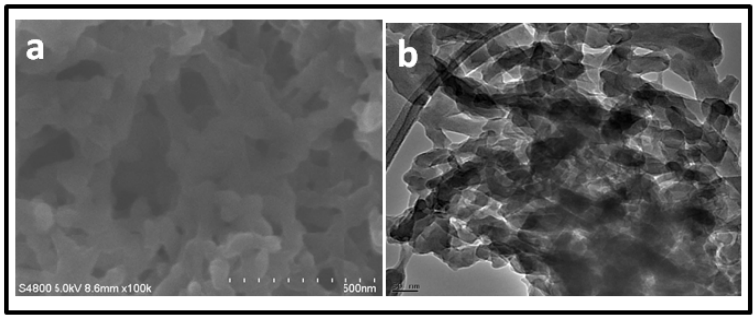
SI_1 – d spacing of PANI anchored SVO NC synthesized at 80^0C

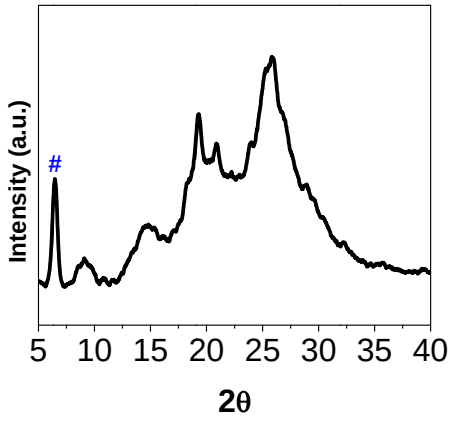


SI_2 a) FESEM b) TEM images of PANI-NF's synthesized at 60^0C



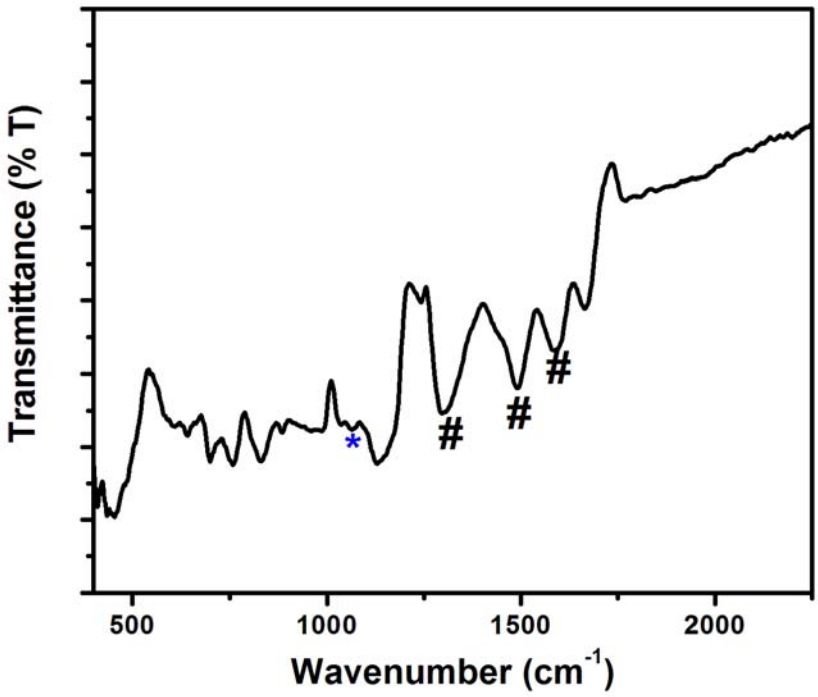
The above FESEM/ TEM images clearly show the formation of PANI- NF's at 60^0C.The PANI anchored SVO nanospheres also found the formation of NFs synthesized at 80^0C.

SI_3 XRD of PANI-NF's synthesized at 60^0C



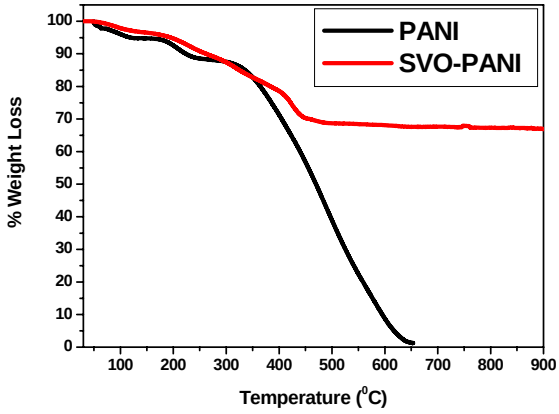
The formation of NF's is characterised by XRD where 2theta = 6.5^0 is the characteristic of PANI-NF's. The peaks at 19.0^0 and 20.0^0 indicate the nanofibers of PANI which are partially crystalline. [24a]

SI_4.FTIR Spectra of layer of PANI - SVO nanospheres NC recorded at 400- 2500cm^{-1}

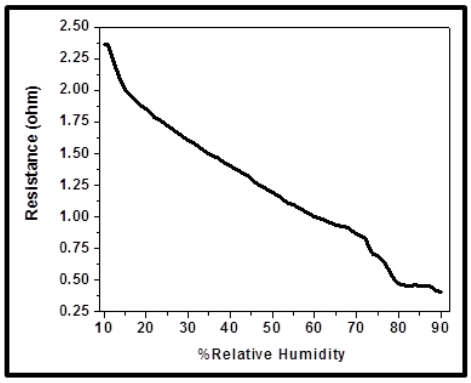


The role of silverious material in PANI layer SVO nanospheres is important where the interaction of inorganic and organic phase elucidated with the help of FTIR shown by (*).

S_5 (a-b) TGA of PANI-NF's and thin layer of PANI - SVO NC.

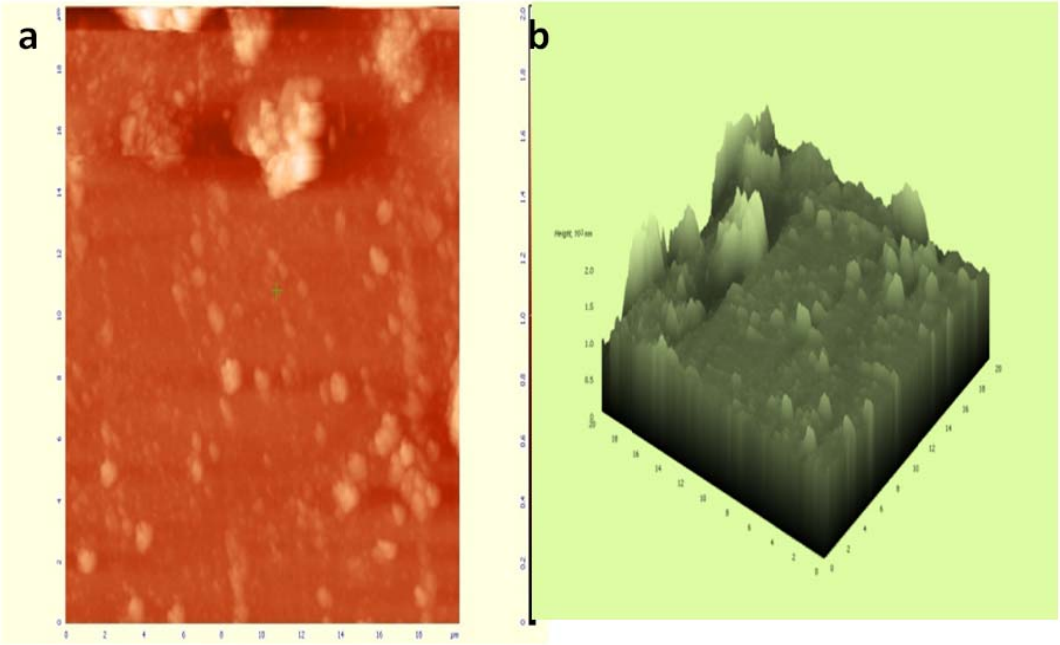


SI_6. Characteristic response of PANI anchored SVO nanocomposites for humidity



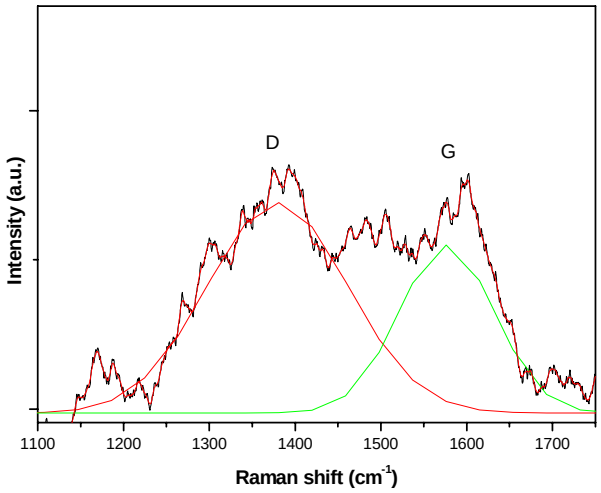
SI-7 PANI - SVO NCs synthesized at 80^0C

The height profile of ultrathin layer (2nm) of PANI accompanying SVO supported by XRD and Raman spectra as shown in SI-8.

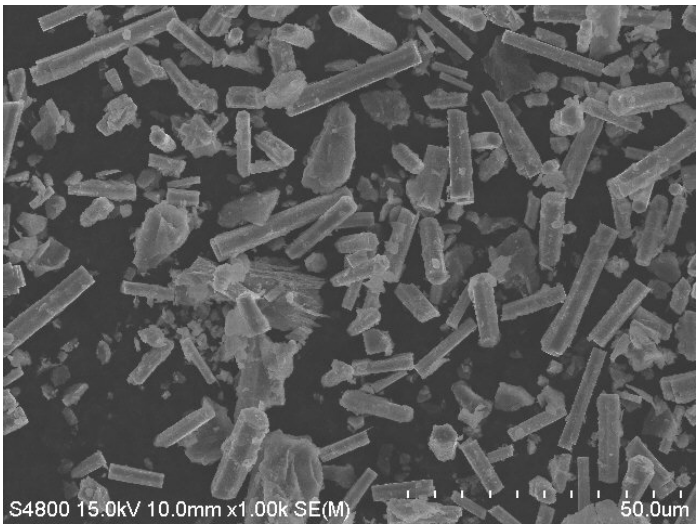


SI-8

Raman spectra of growth of SVO in thin layer of PANI sample have Raman peaks that are similar in shape and position. The peak intensity ratio *I (*D*)/I (*G*)* is ~1. This indicates that the more size of SVO nanospheres, in-plane sp2 domain is partially ordered. However, in polymerization the ratio *is* ~1, which suggests that the defect concentration is very low and that the aromatic structures recovered during the post polymerization and hence thin layer of PANI. [22a]



SI-9 Morphology of SVO Nano / microrods



SI-10 XRD of SVO Nano / microrods