ABSTRACT

Polyaniline (PANI) is unique in the family of intrinsically conducting polymers because of polymerization from cheap raw material aniline, easy method of synthesis, possession of good environmental stability, ability to be configured to conduct across a wide range being utterly non-conducting (Conductivity $\leq 10^{-10}$ S cm$^{-1}$) for insulation use to highly conductive (Conductivity $\geq 1$ S cm$^{-1}$), easy doping and de-doping process and wide ranging applications.

Nanostructures (nanorods, nanowires, nanofibres and nanotubes) of conducting polymers have attracted a great deal of research interest with the expectation that the combination of organic conducting materials and nanostructures could yield new functional materials with physico-chemical properties. Nanostructured polyaniline has been synthesised by hard template method, soft template method, interfacial method, electro-spinning method, etc.

We propose to synthesise and characterize nanostructured polyaniline and poly$(m$-toluidine) by miceller and reverse miceller routes mediated by different surfactants, co-surfactants hydrocarbon phase and dopants.