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(57) Abstract :

ABSTRACT OF THE INVENTION COMPOSITE NANOFIBER FOR TRIBOELECTRIC NANOGENERATORS, PROCESS FOR PREPARATION THEREOF FOR ENERGY HARVESTING AND SENSING APPLICATIONS The present invention relates to a composite nanofiber comprising a biocompatible polymer and a carbon nanomaterial having nanoscroll morphology, and process for the preparation of composite nanofiber. The present invention also relates to a triboelectric nanogenerator comprising the composite nanofiber for energy harvesting and sensing applications and process for preparation thereof. The unique spiral topology of the nanoscrolls embedded in polymer matrix maximizes interfacial area and introduces high-density charge-trapping sites, resulting in significantly higher triboelectric output.

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