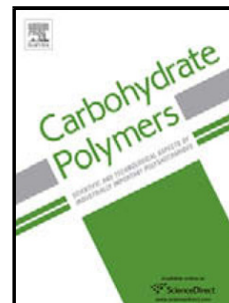


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Novel multifunctional colloidal carbohydrate nanofiber electrolytes with excellent conductivity and responses to bone cancer cells

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Highlights

- The multifunctional carbohydrate NFCs were fabricated by green reactive electrospinning.
- The incorporation of FA (0.5%) essentially improved morphology and conductivity of NFCs.
- The effects of temperature, pressure and conduct time on electrical properties were evaluated.
- The cytotoxic/apoptotic/necrotic analyses were confirmed anticancer activity of FA-NFCs.
- Reported conductivity and anticancer activity of novel carbohydrate NFCs for the first time.

Abstract

This work presents a new approach to fabricating novel polymer nanofiber composites (NFCs) from water solution blends of PVA (hydrolyzed 89%)/ODA-MMT and Na-CMC/ODA-MMT nanocomposites as well as their folic acid (FA) incorporated modifications (NC-3-FA and NC-4-FA) through green electrospinning nanotechnology. The chemical and physical structures and surface morphology of the nanofiber composites were confirmed. Significant improvements in nanofiber morphology and size distribution of the NFC-3-FA and NFC-4-FA nanofibers with

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