

Structural, Dielectric and Magnetoelectric Properties of Modified PVDF-Ferrite Polymer Nanocomposites

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Abstract

Poly(vinylidene fluoride) (PVDF) is a ferroelectric polymer having good dielectric properties, physical and chemical resistance and biocompatibility. Among the five different phases of PVDF, β , γ and δ are the polar phases among which β -phase has the highest polarity¹. Several methods have been explored by the researchers to enhance the electroactive phase content in PVDF including electrical poling, mechanical stretching, electrospinning, inclusion of nanofillers, hydrated salts etc. Magnetoelectric polymer nanocomposites combining ferroelectric polymers and magnetostrictive fillers have drawn significant interest due to their multifunctionality and flexibility². Here we report the synthesis of PVDF nanofibers modified with hydrated cobalt nitrate salt and incorporated with ferrite nanoparticles.

References

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