

1-S.El-Sayed,ZeinabR.Farag, and S.Saber "Dielectric relaxations and optical properties of polyvinylidene fluoride/chitosan films" AIP Advances 10, 095127(2020) DOI: 10.1063/5.0022490

Accepted: 31 August 2020 •

Published Online: 21 September 2020

Abstract:

Polyvinylidene fluoride (PVDF) was blended with different ratios (5%, 7%, and 10% w/w) of chitosan (CS). The dielectric properties of pure PVDF and CS/PVDF films were investigated in (30 °C–140 °C) and (10^2 Hz– 10^6 Hz) ranges. Both frequency and temperature dependence of the real part, M' , and the imaginary part, M'' , of the dielectric modulus were analyzed. The ac conductivity (σ_{ac}) of all samples was studied to throw light on the conduction mechanism. Results of the UV–vis spectra of the films were discussed to determine important optical parameters when CS is blended with PVDF. There is a good consistency between the dielectric and optical results.