Abstract

This paper presents the impedance study of low acyl gellan gum/poly(vinyl pyrrolidone) blend as a host matrix for ion conduction. Low salt content of lithium perchlorate was added into the blend polymer host and the membranes were prepared by the means of solution casting method. The temperature-conductivity of the investigated samples follows the Vogel-Tammann-Fulcher rule. The occurrence of electrode polarization was explained by the combination of the dielectric loss, tangent loss and imaginary part of conductivity. The relaxation time for dipole orientation and ionic conductivity were calculated from tangent loss and imaginary part of modulus.

Keywords: Polymer electrolyte, natural polymer, impedance