

Research proposal

My PG project work deals with the investigation of ionic conductivity of Biopolymer electrolytes (BEs) based on Iota-Carrageenan and Iota-Carrageenan and ammonium iodide. The conductivity of Iota-Carrageenan is enhanced by the addition of Pennywort extract in a particular ratio. This Biopolymer electrolyte was successfully prepared by Solution Casting technique and characterized by means of XRD Analysis, AC impedance study and Transference number study. From the AC impedance analysis, the conductivity of 1gm of Iota carrageen and 1gm Pennywort extract exhibit maximum ionic conductivity of 2.09×10^{-4} S/cm at 303K. From the AC impedance analysis, the conductivity of 1gm of Iota carrageen and 1gm Pennywort extract with 300 mg ammonium iodide exhibit maximum ionic conductivity of 2.48×10^{-3} S/cm at 343K. The temperature dependent conductivity of polymer electrolyte obeys an Arrhenius relationship. The dielectric behavior has been analyzed using dielectric permittivity.