**Document category** : ISI Web of Science

**Title** : Effect of LiCF3SO3 on L-Chitosan/PMMA Blend Polymer Electrolytes

**Author** : Khiar, A. S. A.; (Universiti Sains Islam Malaysia)

Radzi, S. Mat; (Universiti Sains Islam Malaysia)

Razak, N. A; (Universiti Sains Islam Malaysia)

**Abstract** : This paper focuses on the effect of lithium triflate (LiCF3SO3) on the structural and conduction properties of lauroyl (L)-chitosan/poly(methylmethacrylate) (PMMA)-based polymer electrolytes. Films of L-chitosan/PMMA blends and its complexes were prepared using a solution-casting technique. The ionic conductivity of the system was measured over a wide range of frequency between 50Hz-1MHz. Impedance plot for the samples demonstrates two well-defined regions. The disappearance of the high frequency semicircular region led to a conclusion that the current carriers are ions. Sample with 30 wt% of LiCF3SO3 showed the highest conductivity of $7.59 \pm 3.64 \times 10^{-4}$ S cm$^{-1}$ at room temperature. This is consistent with the results obtained from infrared spectroscopy.

**Subject** : PMMA; L-chitosan; polymer electrolytes; conductivity; FTIR

**Type** : Article

**Journal** : Molecular Crystals And Liquid Crystals

**ISSN** : 1542-1406

**e-ISSN** : 1563-5287

**Publisher** : Taylor & Francis Ltd

**Year issue** : 2014

**Language** : English