

**EFFECTS OF SALT TYPE ON THE ELECTRICAL PROPERTIES CHITOSAN BASED
POLYMER ELECTROLYTE**

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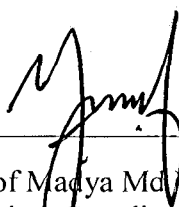
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Ahmad Rifaie Ahmad Ridzuan

ABSTRACT

EFFECT OF DIFFERENT SALTS ON THE ELECTRICAL PROPERTIES OF CHITOSAN BASED POLYMER ELECTROLYTE.

Polymer electrolyte based on lithium nitrate, LiNO_3 , lithium triflate, LiCF_3SO_3 and lithium perchlorate, LiClO_4 salt and high molecular weight of chitosan was prepared using solution casting techniques. A film prepared is the highest electrical conductivity and largely amorphous. The ionic conductivity for chitosan- LiNO_3 , chitosan- LiCF_3SO_3 and chitosan- LiClO_4 were conducted over wide range of frequency and at temperatures between 298 K and 353 K. The conductivity is due to the mobile ions from the salt. The conductivity was calculated using the bulk impedance obtained through impedance spectroscopy using the Cole-Cole plots illustrating the variation of the negative imaginary impedance with the real impedance. Dielectric data were analyzed using the complex permittivity ϵ^* and dissipative loss, $\tan \delta$ and relaxation times were determined at various temperatures. The temperature dependent conductivity data obeys Arrhenius relationship.

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