

**EFFECT OF TiO₂ ON THE ELECTRICAL PROPERTIES OF HEXANOYL
CHITOSAN-LiClO₄ BASED POLYMER ELECTROLYTE**

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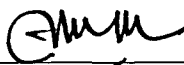
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This Final Year Report entitled “Effect of TiO_2 on the electrical properties of hexanoyl chitosan LiClO_4 based polymer electrolyte” was submitted by Mohamad Ridzuan Bin Ahmad, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Physic. In the Faculty of Applied Science and was approved by



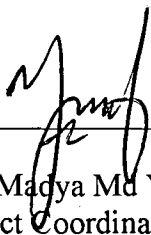
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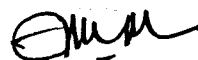


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ABSTRACT

Hexanoyl chitosan-LiClO₄-TiO₂ electrolyte system was prepared by solution cast technique. The ionic conductivity for the Hexanoyl chitosan-LiClO₄-TiO₂ was conducted over a wide range of frequency and at temperatures between 283 and 333 K. Dielectric data were analyzed using complex permittivity ϵ^* and complex electrical modulus M^* for the sample with the highest ionic conductivity at various temperatures. Within the temperature range investigated, the conductivity of the hexanoyl chitosan-LiClO₄-TiO₂ based system are thermally assisted and can be described by Arrhenius law indicating that the conductivity of polymer electrolyte increase with the increasing of temperature. This indicated that the salt undergoes greater dissociation as the temperature increase