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**ABSTRACT**

In this study, chitosan with 85% deacetylation was used with LiOAc.2H<sub>2</sub>O as doping salt and Al<sub>2</sub>O<sub>3</sub> or CeO<sub>2</sub> as dispersoid. They were mixed in certain weight percentages and dissolved in 100ml of 0.5% acetic acid solution. These solutions were poured into petri dishes and left at room temperature for film formation. Infrared Spectroscopy has shown that there is interaction between chitosan and LiOAc with and without dispersoid. The peaks are shifted, broadened, split and differs in intensity. The electrical conductivity of all samples was calculated using the bulk resistance value obtained from the complex admittance plot. The highest electrical conductivity is  $8.92 \times 10^{-9} \text{Scm}^{-1}$  exhibited by the 2wt% Al<sub>2</sub>O<sub>3</sub> added film at room temperature, which is 28 times higher than the film without dispersoid. Samples containing various CeO<sub>2</sub> content exhibit conductivity value with the same order of magnitude. The dielectric behavior and modulus formalism shows that the samples of Al<sub>2</sub>O<sub>3</sub> and CeO<sub>2</sub> are ionic conductors. Using XRD, it was observed that the LiOAc peak was depressed when small amounts of Al<sub>2</sub>O<sub>3</sub> (up to 2wt%) were added. The crystallinity of films increased when more dispersoid is added. The same observation was noted for samples containing CeO<sub>2</sub>, but the changes are not as significant compared to Al<sub>2</sub>O<sub>3</sub>. All samples are thermally stable up to 350°C. Surface morphology changes with different wt% of Al<sub>2</sub>O<sub>3</sub>.

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