
	Page
Declaration	
Acknowledgement	i
Abstract	ii
CONTENTS	iii
CHAPTER 1: INTRODUCTION	
1.1 Background	1
1.2 Chitosan	6
1.5 Objective of the present works	8
CHAPTER 2: LITERATURE SURVEY	
2.1 Solid Polymer Electrolytes	11
2.2 Conductivity Mechanism	15
CHAPTER 3: EXPERIMENTAL METHODS	
3.1 Sample preparation	25
3.2 Fourier Transformed Infrared Spectroscopy	27
3.3 Impedance Spectroscopy	28
3.4 X-ray Diffraction	34
3.5 Thermal Analysis	37
3.5.1 Thermogravimetry Analysis	37
3.5.2 Differential Scanning Calorimetry	39

3.6 Scanning Electron Microscopy	42
----------------------------------	----

CHAPTER 4: FTIR CHARACTERIZATION FOR COMPLEX FORMATION

4.1 Introduction	44
4.2 Fourier Transformed Infrared Spectroscopy Analysis	45
4.3 Summary	52

CHAPTER 5: ELECTRICAL PROPERTIES FOR COMPLEX FORMATION

5.1 Introduction	53
5.2 Conductivity Variation with dispersoid concentration/composition	54
5.3 Dielectric Behavior	65
5.4 Summary	74

CHAPTER 6: XRD CHARACTERIZATION FOR COMPLEX FORMATION

6.1 Introduction	75
6.2 X-ray Diffraction Analysis	76
6.2.1 Aluminium oxide	76
6.2.2 Cerium oxide	80
6.3 Summary	83

CHAPTER 7: THERMAL PROPERTIES FOR COMPLEX FORMATION	
7.1 Introduction	84
7.2 Thermogravimetric Analysis	84
7.3 Differential Scanning Calorimetry	87
7.4 Summary	92
CHAPTER 8: SURFACE STRUCTURE OF CHITOSAN- LITHIUM ACETATE COMPLEXES WITH Al₂O₃ THROUGH SCANNING ELECTRON MICROSCOPY	
8.1 Introduction	93
8.2 Scanning Electron Microscopy	94
CHAPTER 9: SUMMARY AND CONCLUSION	97
REFERENCES	101
