

**INVESTIGATION ON PEMA/PVdF-HFP BLEND  
POLYMER ELECTROLYTES INCORPORATED WITH  
CARBONATE-BASED PLASTICIZERS AND  
IMIDAZOLIUM-BASED IONIC LIQUIDS**

**SIM LI NA**

**THESIS SUBMITTED IN FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE  
OF DOCTOR OF PHILOSOPHY**

**DEPARTMENT OF PHYSICS  
FACULTY OF SCIENCE  
UNIVERSITY OF MALAYA  
KUALA LUMPUR**

**2014**