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A Polyacrylonitrile (PAN) Based Solid Polymer Electrolyte Complexedwith Copper Trifluoromethanesulfonate ($Cu(CF_3So_3)_2$)

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In this report, we present about a polymer electrolyte comprising of Polyacrylonitrile, ethylene carbonate, propylene carbonate and coppertrifluoromethanesulfonate. Preliminary studies have been performed to determine the composition having appropriate conductivities and mechanical properties. Impedance measurements and DC polarization tests have been done to calculate the activation energy and ionic, electronic contributions on conductivity respectively. Cells have been fabricated using copper as the anode and a conducting polymer as the cathode. Performances were evaluated using constant load discharge characteristics.