

### Synthesis and Electroluminescent properties of polymer with fluorene backbone

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Light emitting electrochemical cells have introduced an easy architecture to the devising of electroluminescent polymer for light emitting applications. The structure of the device include a transparent cathode which is indium tin oxide sputtered on a glass slab. The active layer which is the light emitting polymer was made a blend with an electrolyte which is polyethylene oxide (PEO) and an inorganic salt. These blend made in the form of a film by the process called spin coating. Aluminium cathode was deposited on to this film by vacuum deposition method. Due to the lack of inherent ionic nature of the electroluminescent polymer, ions were incorporated for the smooth functioning of the device. In this manuscript, we are studying the effects of ionic side groups on the electroluminescent characteristics of polyfluorene. We have synthesized polyfluorene with anionic and cationic side groups and light emitting electrochemical cells have been made with these polymers in order to study their emission characteristics.