

ABSTRACT

Polymer based semiconductor is an active area of research in recent years. These polymers are superior to conventional inorganics because of their low cost, long operational life time and less concerns with regard to their stability as an electronic material . They are soluble in organic and environment friendly solvents and their thin film can be obtained by solution processing technique similar to coating of paint. This has led to their applications in the manufacture of integrated circuits computer chips and other thin film electronics. In this work, pyridine polymers are synthesized by new polymerization methods as illustrated in the given schemes 1 & 2. Highly pre-organized polymeric molecules are developed, in which polymer chains are aligned uniaxially parallel to the direction of current flow. The polymer molecules have very stable structure and ^{may} generate a cloud of electrons just as in metals throughout the core of molecule. The pyridine polymers have been characterized for parameters such as melting point, solubility, R_f value, UV/visible spectra, I.R. spectra, pH and electrical resistivity. Pyridine polymer will act as conducting polymer with higher stability and work at long operational temperature range. The electrical and optical properties of the synthesized materials are being examined.