

# The SEM & AFM images of MEH-PPV films below CLA region

## Abstract

Poly [2-methoxy-5-ethylhexyloxy)-1,4-phenylene vinylene] (MEH-PPV) is an example of conducting polymer that used to fabricate an organic light emitting diode (OLED). The surface roughness and homogeneity of MEH-PPV film is then investigated by using Atomic Force Microscope (AFM) and Scanning Electron Microscope (SEM). The luminescence of the device was effect by the surface roughness of the film. The standard spin coating technique is used to produce uniform thin film onto large area. MEH-PPV can be easily dissolved in non-aromatic (chloroform) and aromatic (toluene) solvents to exhibit different optical, structural and electrical properties. The MEH-PPV solutions in the two types of solvents were prepared at solution concentration of  $1 \text{ mgml}^{-1}$  to  $8 \text{ mgml}^{-1}$  and  $1 \text{ mgml}^{-1}$ ,  $5 \text{ mgml}^{-1}$  and  $8 \text{ mgml}^{-1}$  in chloroform and toluene respectively. There are three regimes derived from the viscosity measurement. These regimes are measured related to concentration of loose aggregation, (CLA). The regime are  $c < \text{CLA}$ ,  $c > \text{CLA}$  and  $c > \text{CLA}$ . The MEH-PPV solutions used in this work is classified in the regime of  $c < \text{CLA}$ . In this regime, the structural properties of MEH-PPV film are independent on the spun speed, thickness and solution concentration for the two type of solvents used in preparing the polymer films.