In this study, cadmium sulphide/ poly(methyl methacrylate) (CdS/PMMA) nanocomposite films with different content of CdS were prepared by a new solution casting method. The composite films were characterized by scanning electron microscopy (SEM), Fourier transform infrared spectroscopy (FTIR) and the conductivity was elucidated via electrochemical impedance spectroscopy (EIS). SEM revealed that CdS particle were homogeneously dispersed in PMMA polymer matrix, the size of CdS particles increased and became more agglomerated with the increasing of CdS. The Fourier transform infrared spectroscopy (FTIR) spectra indicated the presence of sulfur (S) in PMMA matrices at peak 841 cm\(^{-1}\), meanwhile the intensity of absorption band in the range between (1790 – 1675) cm\(^{-1}\) and (1220 – 1095) cm\(^{-1}\) enhanced as the increase of CdS content. The EIS result showed that increasing quantity of CdS in PMMA matrix has resulted the increasing of electrical conductivity, which can be associated to the increased contact and Cd\(^{2+}\) ion transference between the CdS particles as evidenced by SEM images.

**Keywords:** poly(methyl methacrylate), cadmium sulphide, nanocomposite film, conductivity, morphology