

INFLUENCE OF IONIZING RADIATION TO ANILINE HYDROCHLORIDE/PVA ON CONDUCTIVITY

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ABSTRACT

Polyaniline (PANI) has been considered as one of the potential conducting polymers for various electrochemical and electronic applications. To facilitate the formation of PANI, 0.2 g of Aniline hydrochloride were dissolved in distilled water together with polyvinyl alcohol (PVA), for casting into composite film. The electrical conductivity increases from 10⁻⁷ S/cm – 10⁻⁶ S/cm when they were exposed to ⁶⁰Co gamma rays at dose range 0 Gy to 6 kGy. Measurements of electrical conductivity were carried out using Hewlett-Packard 4284A impedance analyzer in the frequency range of 20 Hz to 1 MHz. The dc conductivity was extracted from the Cole-Cole plots of the complex impedance Z'' vs. Z'

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