

Synthesis, Spectral and Electrical Conductance Properties of Terpolymer Resin-IV

Rahul Mohurle¹, Yashpal Rathod², Sunil Zanje², Shyam Dafare², Wasudeo Gurnule^{1*}

Department of Chemistry

Kamla Nehru Mahavidyalaya, Nagpur, Maharashtra, India¹

J. M. Patel College, Bhandara, Maharashtra, India²

wbgurnule@gmail.com, yashpalrathod2012@gmail.com

Abstract: Terpolymer resin ANBAF-IV were made by combining 2-amino 6-nitrobenzothiazole, adipamide with formaldehyde at 124 °C in the presence of an acid catalyst in a 4:1:5 molar ratios. Thin layer Chromatography (TLC) was utilized to test and confirm the purity of a newly synthesized terpolymer. Elemental analysis was used to establish the compositions of terpolymer. Gel permeation chromatography was used to measure the number average molecular weight. To figure out the structure, researchers looked at electronic spectra, infrared and nuclear resonance magnetic spectra. The electrical characteristics of the ANBAF-IV terpolymer were examined over a wide range (314-403K), the activation energy of electrical conduction was calculated and the $\log \sigma$ vs $1000/T$ plot was shown to be linear over a wide temperature range.

Keywords: Terpolymer resin, Electrical Conductivity, Condensation, Morphology, Elemental Analysis.

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