

# Synthesis and Characterization of 2-Amino 6-Nitrobenzothiazole-Adipamide-Formaldehyde Copolymer

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**Abstract:** The copolymer ANBAF-II was made via condensation of 2-amino 6-nitrobenzothiazole, adipamide and formaldehyde in the presence of 2M HCl as a catalyst at 126 °C in a 2:1:3 molar fraction of reactants. The structure of a newly synthesized copolymer has been elucidated and demonstrated using the concept of elemental evaluation and a variety of spectrum techniques, including UV-Visible, FT-IR, and <sup>1</sup>H NMR. The non-aqueous conductometric titration was used to determine the range of common molecular weight of the copolymer. The structure of the copolymer has been provided based on the idea of spectral and physicochemical evaluation.

**Keywords:** Copolymer, condensation, spectral analysis, NMR spectra, Non-aqueous, Number average molecular weight.

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