



Research Journal of Pharmaceutical, Biological and Chemical Sciences

Synthesis and Characterization of Copolymer Derived from 8-Hydroxyquinoline 5-Sulphonic acid, Acrylamide and Formaldehyde.

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ABSTRACT

The copolymer was synthesized from 8-hydroxyquinoline 5-sulphonic acid, acrylamide and formaldehyde by the polycondensation method in 1:1:2 molar ratio using 2M HCl as catalyst and refluxing for 5h at 122°C. Copolymer resin compositions have been determined on the basis of their elemental analysis. The number average molecular weights of these copolymers were determined by gel permeation chromatography (GPC) method. The copolymer resins have been further characterized by absorption spectra in non-aqueous medium, infrared (IR) spectra and nuclear magnetic resonance (¹H NMR) spectral studies. The physico-chemical and spectral methods were used to elucidate the structures of 8-HQ-5-SAAF copolymer. The morphology of the copolymer was studied by scanning electron microscopy and X-Ray Diffraction techniques showing crystalline nature of the copolymer.

Keywords: - Copolymer, polycondensation, synthesis, 8-hydroxyquinoline 5-sulphonic acid, Spectral.

<https://doi.org/10.33887/rjpbcs/2024.15.2.8>

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