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# Nanocomposite polyvinyl chloride-based heterogeneous cation exchange membrane prepared by synthesized ZnQ<sub>2</sub> nanoparticles: ionic behavior and morphological characterization

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## Abstract

In this study, bis (8-hydroxyquinoline) zinc (ZnQ<sub>2</sub>) nanoparticles were synthesized and used in heterogeneous cation exchange membranes. The resulting membranes were examined in terms of membrane morphology and electrochemical features. Scanning electron microscopy (SEM) images, Fourier transform infrared (FTIR) spectra and X-ray diffraction (XRD) patterns confirmed the successful formation of ZnQ<sub>2</sub> nanoparticles. Scanning Optical Microscopy (SOM) images of the prepared membranes showed a relatively uniform membrane surface. It was found

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