

New generation of nanocomposite materials based on perfluorinated membranes and polyaniline: Intercalation phenomena, morphology and transport properties

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Received 9 July 2009; Accepted 26 August 2009

ABSTRACT

This work summarizes results on the synthesis, morphology and transport properties of the new grade of nanocomposite materials based on polyaniline and sulphocationic perfluorinated membranes MF-4SC/Russia. The five types of the intercalation phenomena during the synthesis process of nanocomposite membranes are revealed and discussed. The transport properties and morphology peculiarities are investigated in dependence on the polyaniline distribution in the interior or on the surface of the basic membrane. The materials obtained are perspective for the application in the electro dialysis concentrating of salt solutions, fuel cells and sensor devices.

Keywords: Intercalation phenomena; Nanocomposite membranes; Polyaniline; Transport properties

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