

Journal of New Materials for Electrochemical Systems (2000), 3(1), 27-32.

Proton Conducting Membranes Based on Polyoxadiazoles.

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Abstract

Polyoxadiazole (POD)-based membranes were synthesized and tested for elec. cond. both in as-prepd. and doped with H₃PO₄ forms. Being prepd. by the phase inversion method, POD membranes contained a developed macropore system, which, however, can be modified by mech. compression. It was found that compression improves the membrane strength and flexibility. The proton cond. of H₃PO₄-doped POD membranes is quite high, reaching that of Nafion.