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Characterization and Performance of
Proton Conducting Membrane
based on Blended PVdF copolymer matrix
PVdF 공중합체를 기초로 한 수소이온 전도막의
특성화와 성능에 관한 연구

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Proton conducting composite membrane for direct methanol fuel cells based on blended PVdF copolymer and Nafion was prepared in different copolymer ratios and casting conditions. Microphase separation behavior in the matrix and morphological characteristics were investigated and correlated with proton conductivity. Nafion was also coated on each side of the membrane to enhance proton conductivity. We also examined methanol permeability which is decisive for DMFC application.

It was founded that performance of the proton conducting membrane depended on the blend morphology which was determined by fabrication conditions. The composite membrane showed excellent mechanical property, proton conductivity, and conductance with quite inhibited methanol permeation.