

## FC09

The State of Water in the Proton Conducting Semi-IPNs  
Based on Nafion and Crosslinked Poly(AMPS) for DMFC  
DMFC용 고분자 전해질 막인 Nafion과 Poly(AMPS)의  
Semi-IPNs에서 물 상태에 관한 연구

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There have been many researches in proton conducting membranes and their application in direct methanol fuel cell (DMFC). In the operation of DMFC, membrane hydration is critical to the fuel cell performance and influences proton conductivity, methanol permeability and electro-osmotic drag. However, the degree of water absorption on a mass basis does not correlate well with those properties. The state of water may play a more significant role in determining the membrane transport properties.

To modify the state of water in the Nafion, we prepare the proton conducting semi-IPNs based on Nafion and crosslinked poly(AMPS) with sulfonic acid groups.