

Electronic Supplementary Information (ESI)

Direct Spun Aligned Carbon Nanotube Web-Reinforced Proton Exchange Membranes for Fuel Cells

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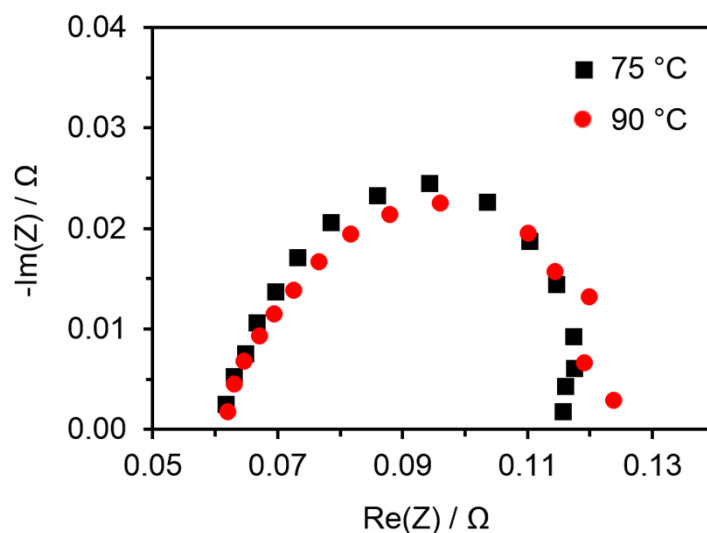


Figure S1. Nyquist plot of SPEEK/dsCNT membrane at 75 °C and 90 °C and 100% RH. The membrane resistance was 0.062 Ω (at 75 °C) and 0.062 Ω (at 90 °C), and interface resistance was 0.054 Ω (at 75 °C) and 0.062 Ω (at 90 °C).

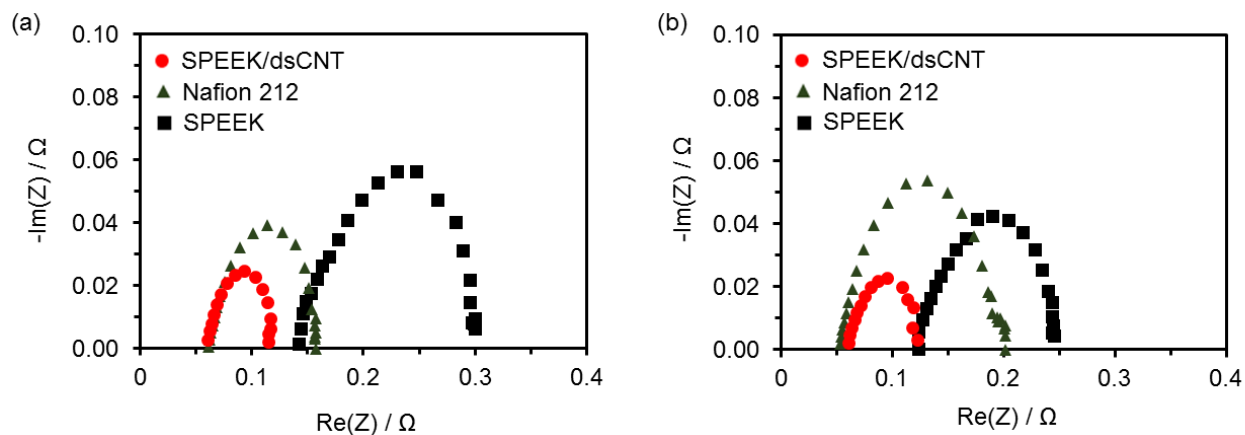


Figure S2. Nyquist plots of SPEEK/dsCNT, Nafion 212 and SPEEK membranes at 100% RH and (a) 75 °C or (b) 90 °C.

Table S1. Comparison of membrane resistance and interface resistance for SPEEK/dsCNT and Nafion 212 membranes.

Resistance	SPEEK/dsCNT	Nafion 212
Membrane resistance at 75 °C and 100% RH	0.062 Ω	0.061 Ω
Membrane resistance at 90 °C and 100% RH	0.062 Ω	0.053 Ω
Interface resistance at 75 °C and 100% RH	0.054 Ω	0.096 Ω
Interface resistance at 90 °C and 100% RH	0.062 Ω	0.148 Ω