

Supporting information

Doping Nafion[®] Matrix by *p*-Aramid Flakes for a Proton Transport Less Reliant on Moisture

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S-Figure 1. The plot of $\ln(\eta_{\text{rel}})/c$ vs c for polymer P105 in concentrated sulfuric acid. η_{rel} is the relative viscosity and c is the concentration of polymer (g/l)

S-Figure 2. The comparison of proton conductivities for different composite membranes in water.

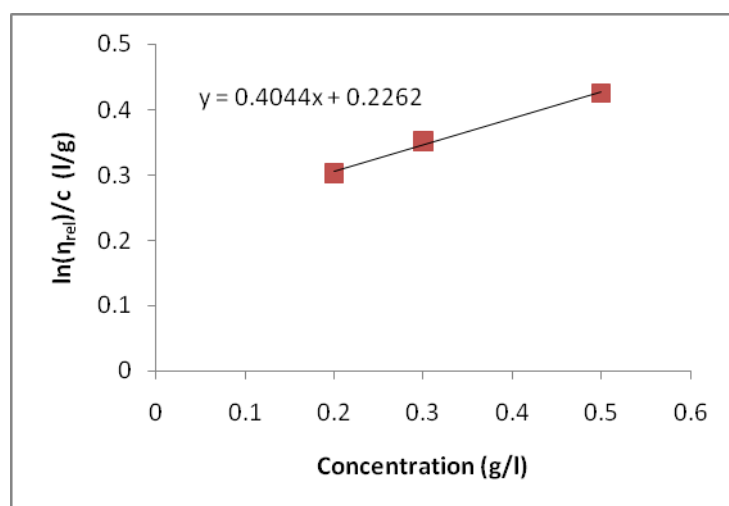
S-Figure 3. The FE-SEM images of the three PPTA samples that were synthesized by using different PPD:TA ratios as labelled in the micrographs.

S-Figure 4. Microstructure of the commercial N112 membrane.

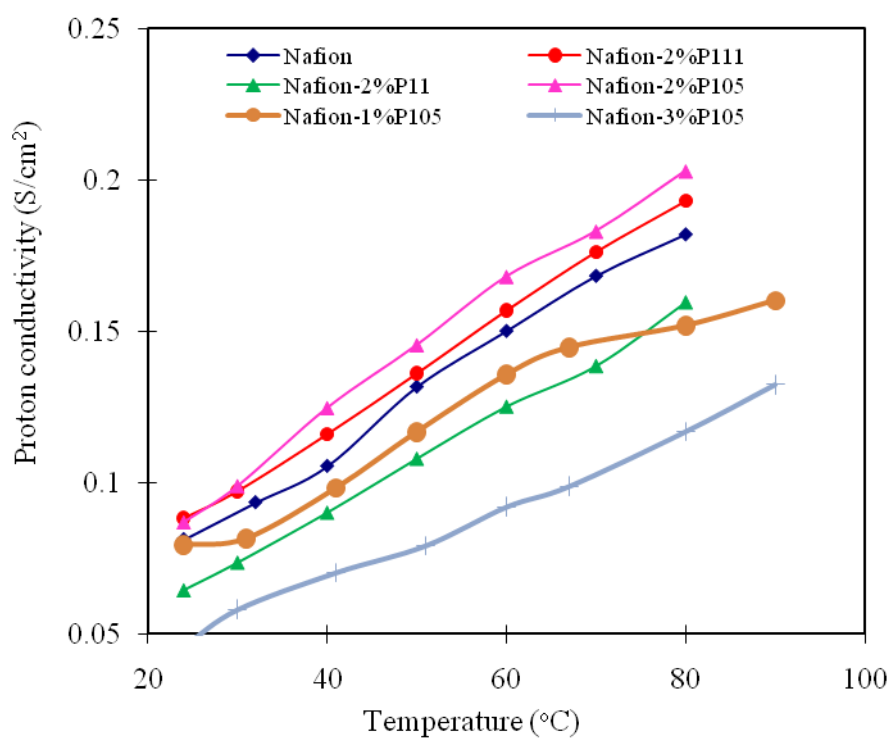
S-Figure 5. ¹⁹F-NMR spectra of Nafion (a) and Nafion-2%P105 (b).

S-Figure 6. Changes in the reduced viscosity (η_{red}) of the colloidal suspensions consisting of Nafion, P105 (wt.% based on Nafion) and IPA/H₂O solvent (v/v=7/5, pH=3) with the increase in concentration of Nafion.

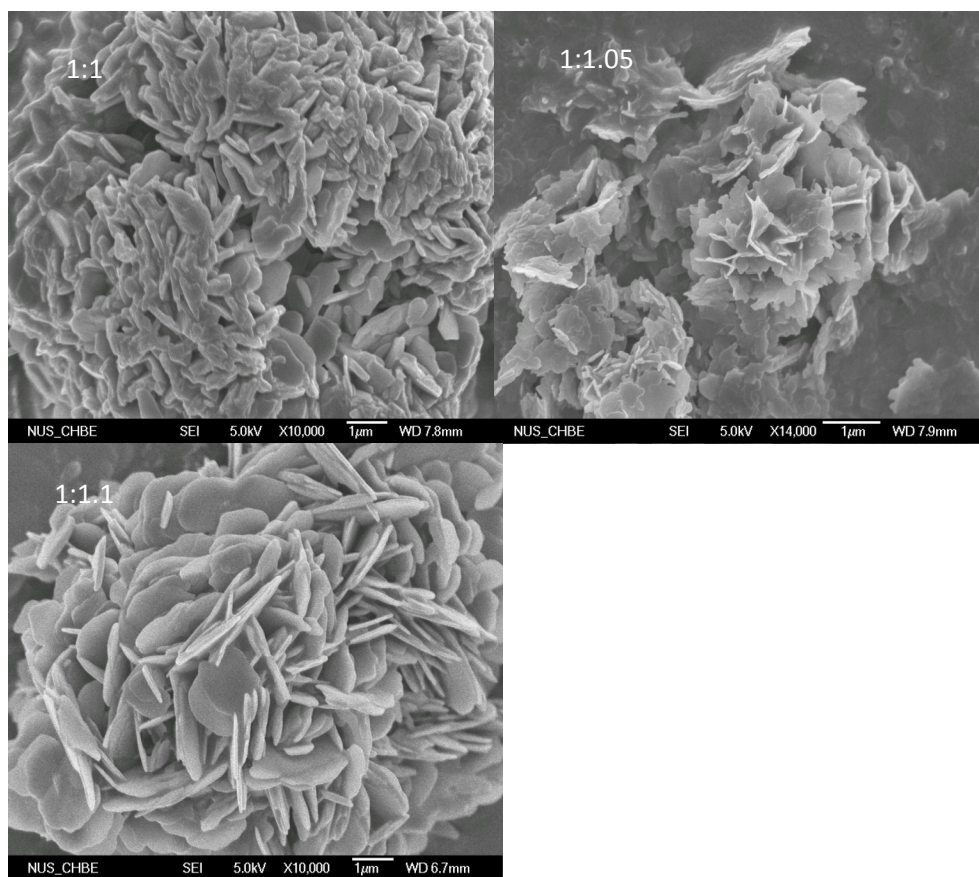
S-Figure 7. Dynamic light scattering test that shows the sizes of Nafion-P105 clusters in IPA/H₂O (7/5) medium.



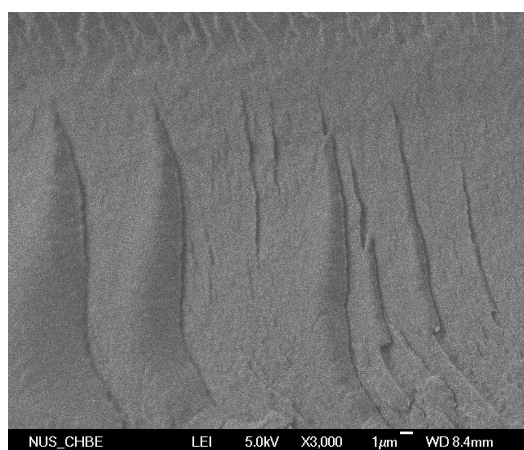
S-Fig. 1: The plot of $\ln(\eta_{rel})/c$ vs c for polymer P105 in concentrated sulfuric acid. η_{rel} is the relative viscosity and c is the concentration of polymer (g/l)



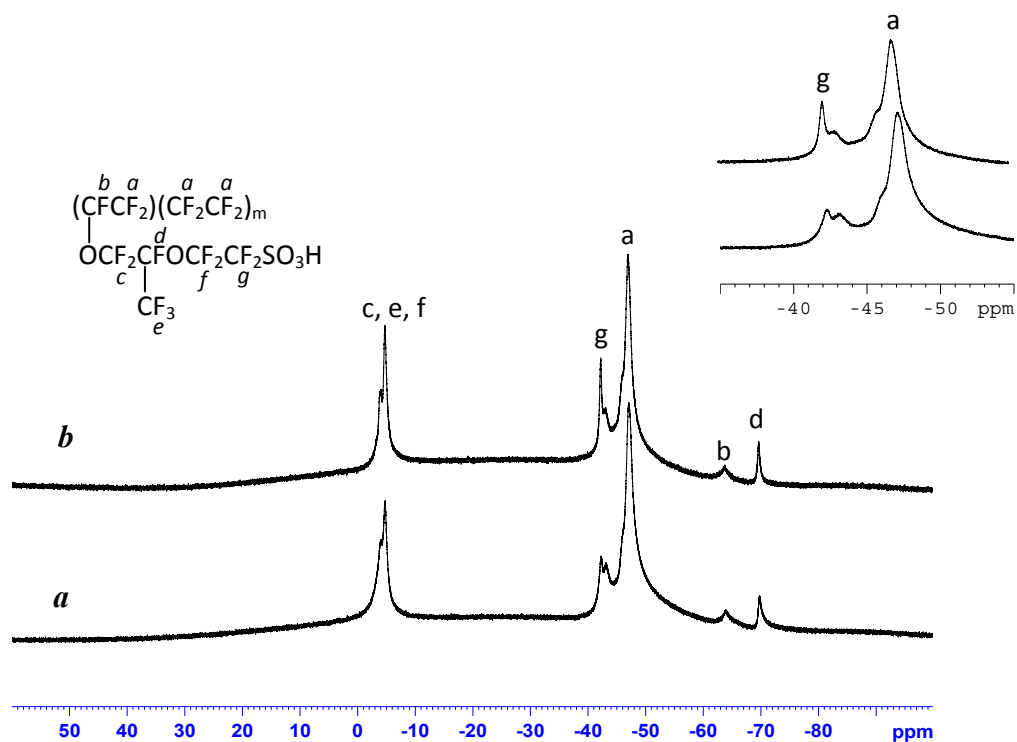
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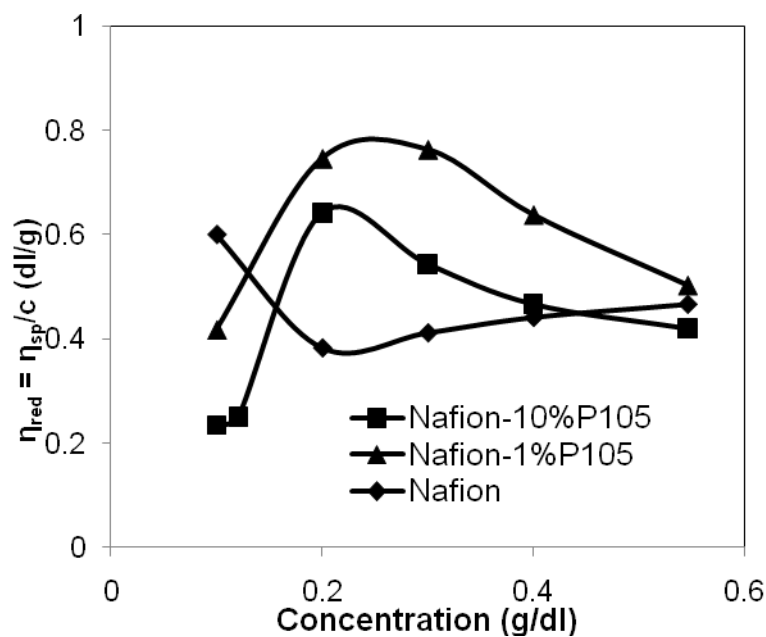
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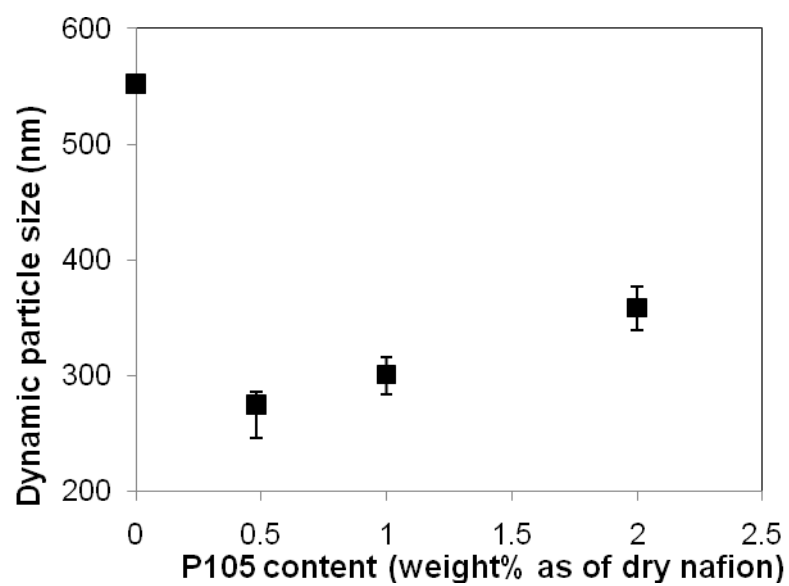
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