

# Supplementary Materials: Hydration and Diffusion of $H^+$ , $Li^+$ , $Na^+$ , $Cs^+$ Ions in Cation-Exchange Membranes Based on Polyethylene- and Sulfonated-Grafted Polystyrene Studied by NMR Technique and Ionic Conductivity Measurements

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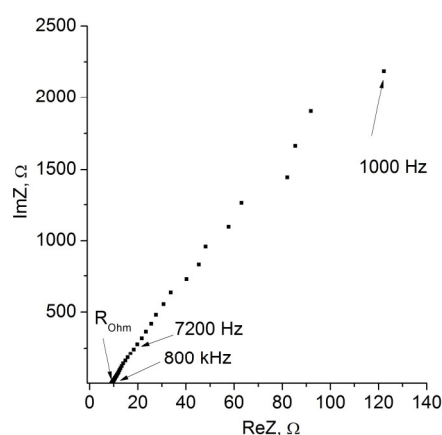
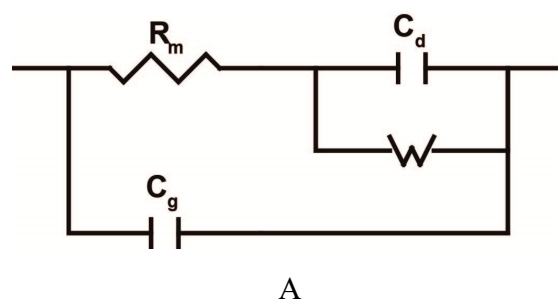
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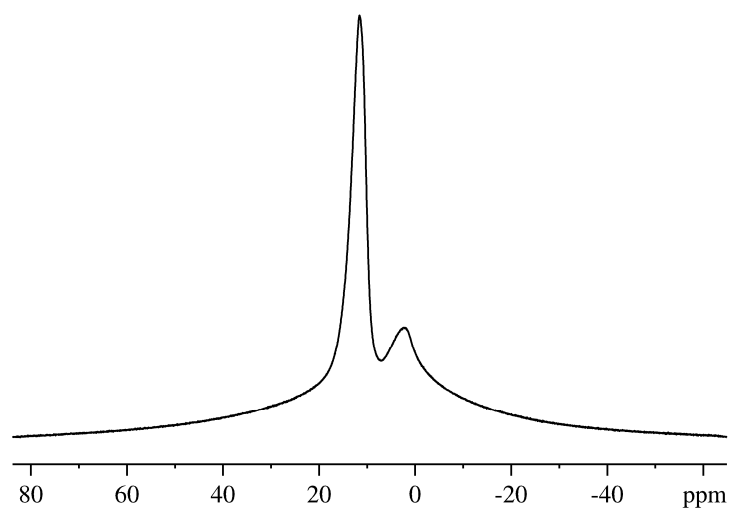
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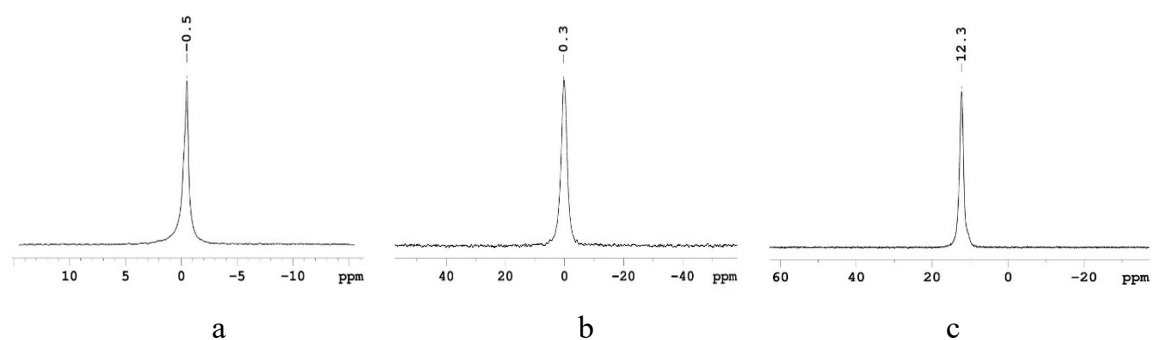
Received: 12 August 2020; Accepted: 28 September 2020; Published: 1 October 2020



**Figure S1.** (A) EEC for a conductor with predominantly ionic conduction; (B) Typical Nyquist plot of MSC-membrane. Here is  $Cs$ -form at 75% RH.



**Figure S2.**  $^1\text{H}$  NMR spectrum in  $\text{H}^+$  ionic form of MSC membrane at  $\text{RH}=95\%$  and  $T = 293\text{K}$



**Figure 3.** NMR spectra of  $^7\text{Li}$  (a),  $^{23}\text{Na}$  (b) and  $^{133}\text{Cs}$  (c) nuclei in appropriate ionic form of MSC membrane at  $\text{RH} = 95\%$ .



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