

High pressure synthesis and transport properties of a perfluorinated sulfocationic exchange membrane

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^{19}F NMR spectrum of the copolymer (Figure S1) contains the signals of all the moieties presented in its structure: fluorine of the sulfofluoride group (42.3 ppm), the broadened signal of CF_3 groups of dioxolane moieties (–82.7 ppm), CF_3 groups of the *n*-propyl moiety (–85.2 ppm), and CF_2 groups at the oxygen (–86.9 ppm) and sulfur (–114.3 ppm) atoms. There are also broadened signals from fluorine atoms of the polymer chain in the ranges from –110 to –122 and from –133 to –142 ppm. The ratio between the integral intensities of these peaks indicates the equivalent amounts of dioxolane, "ether" and sulfur-containing moieties in the polymer.

The IR spectrum (Figure S2) of this copolymer also contains characteristic signals of these moieties.

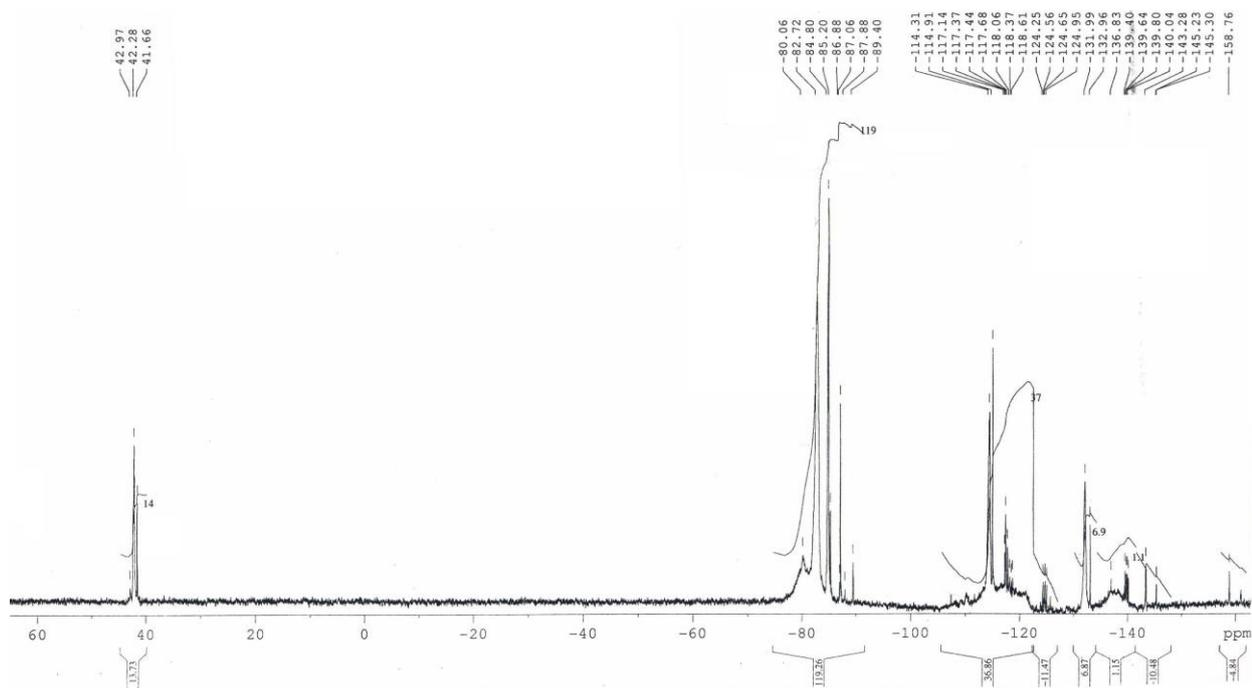


Figure S1 ^{19}F NMR spectrum of the synthesized polymer.

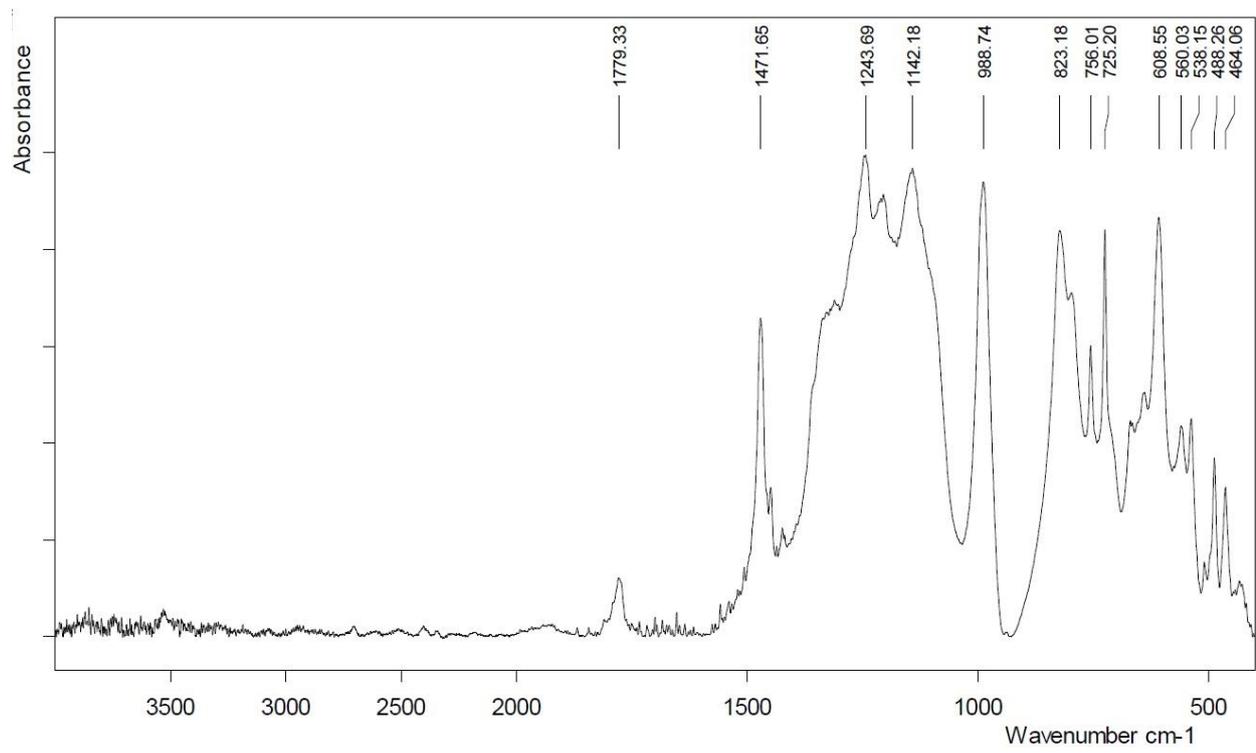


Figure S2 IR spectrum of the synthesized polymer.