membranes

MDPI

*Supplementary Materials*

# Exploring the Gas-Permeation Properties of Proton-Conducting Membranes Based on Protic Imidazolium Ionic Liquids: Application in Natural Gas Processing

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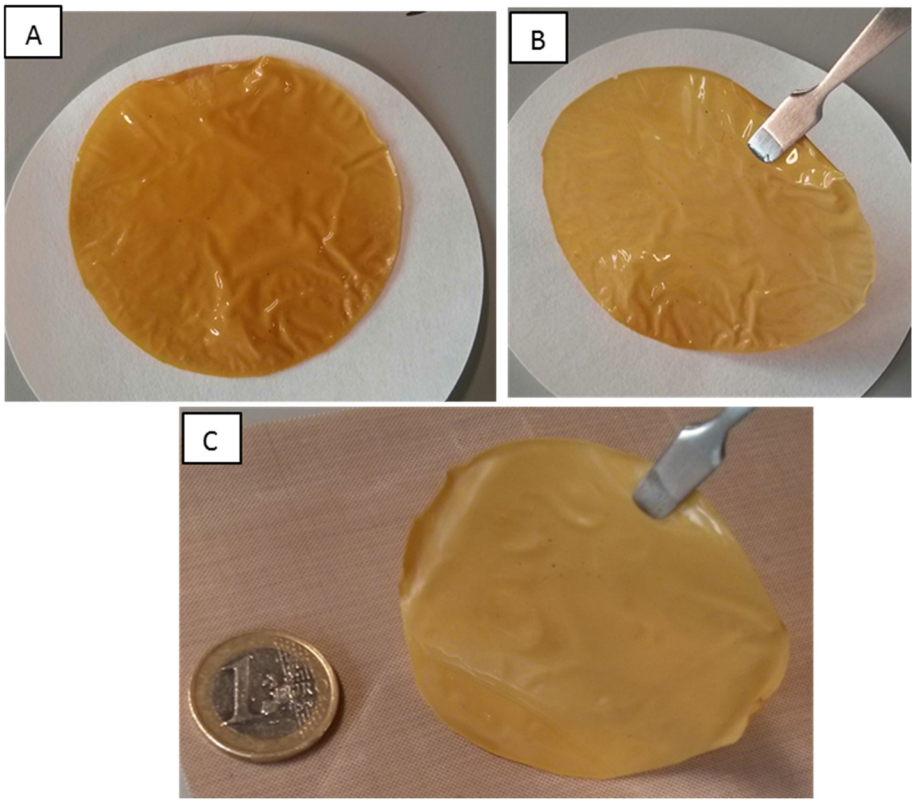


**Figure S1.** Photos of the prepared SILMs: A) IL based SILM (RPBI-IL); B) MIL based SILM (RPBI-MIL); C) PIL based SILM (RPBI-PIL).

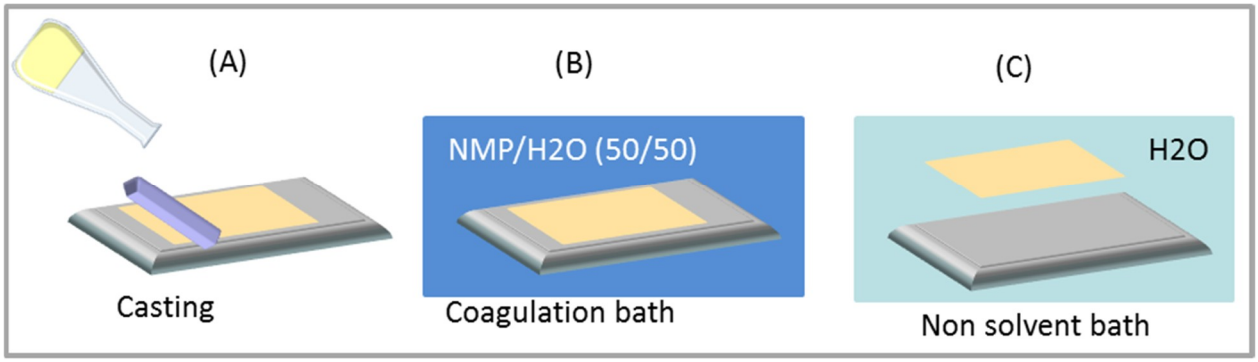


**Figure S2.** Schematic of the phase inversion steps: (A) polymer solution casting on clean glass plate; (B) System immersed in a coagulation bath with solvent mixture 50:50% of NMP: water; (C) Glass plate with the formed PBI support immersed into pure water.

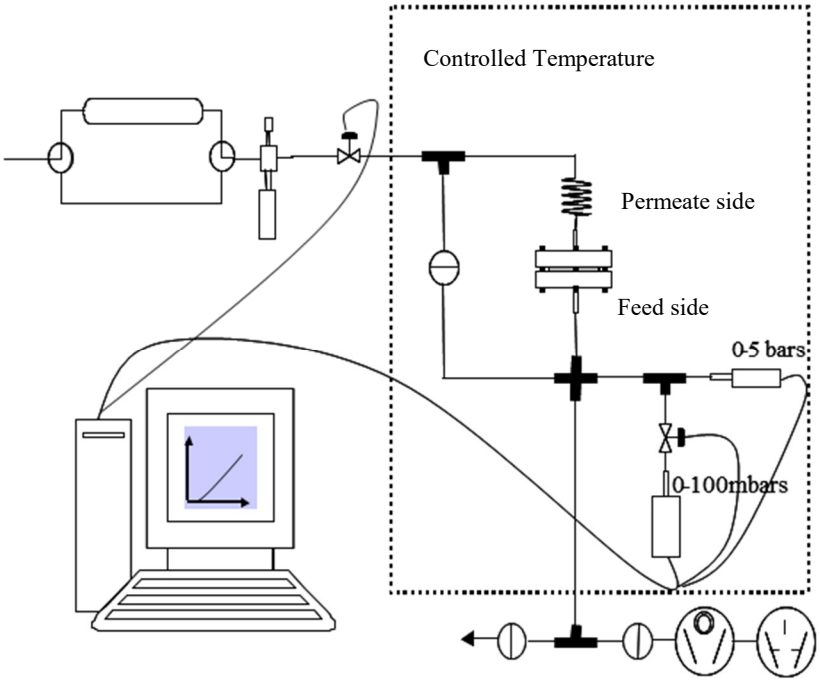


**Figure S3.** Schematic of the lab-scale experimental set-up used for single gas permeation measurements.