

Supporting Information

Polyelectrolyte Multilayers for Forward Osmosis, Combining the Right Multilayer and Draw Solution

Authors names:

*Dennis Maik Reurink, Wiebe M. de Vos, Hendrik D.W. Roesink, Joris de Grooth**

Membrane Science & Technology, University of Twente, MESA+ Institute for Nanotechnology, P.O.

Box 217, 7500 AE Enschede, The Netherlands

*Corresponding author: j.degrooth@utwente.nl

SUPPLEMENTARY INFORMATION

FO PERFORMANCE

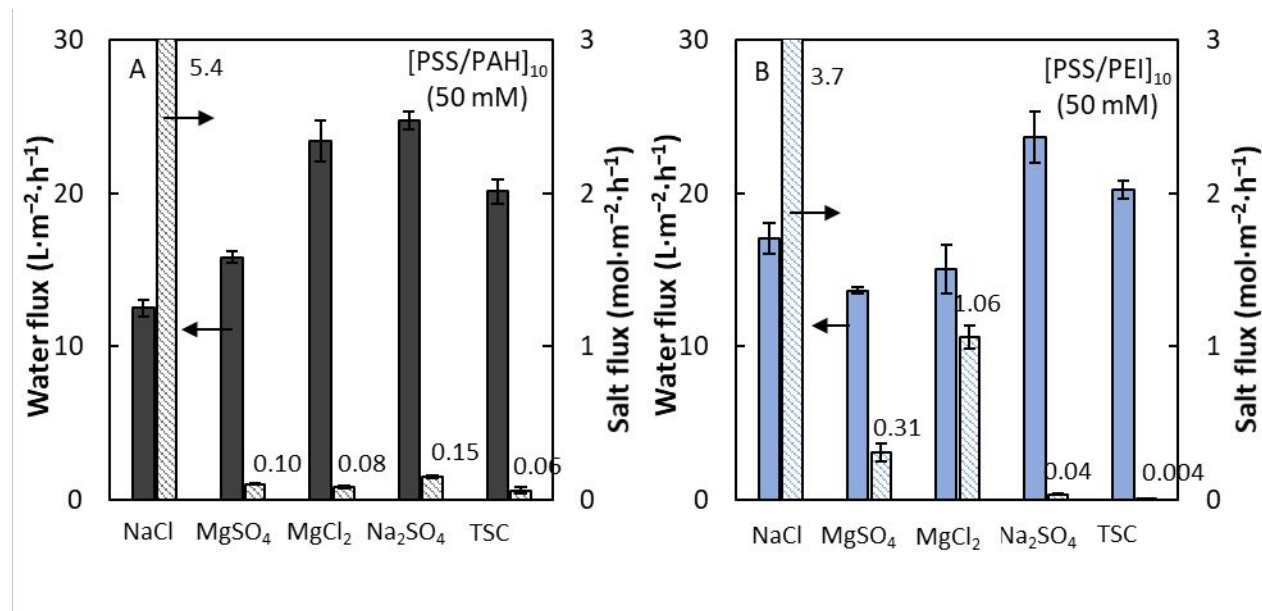


Figure S1: Water fluxes (solid bars on the left y-axis's) and molar salt fluxes (patterned bars on the right y-axis's) of various FO measurements at which a demineralized feed was used facing the active layer (FS-AL) and a draws solution with an osmotic pressure of 36 bar. PSS/PAH (A) and PSS/PEI (B) PEM membranes built at 50 mM tested for various draw solutions at equal osmotic pressures. Error bars are standard deviations of 5 different PEM membranes.

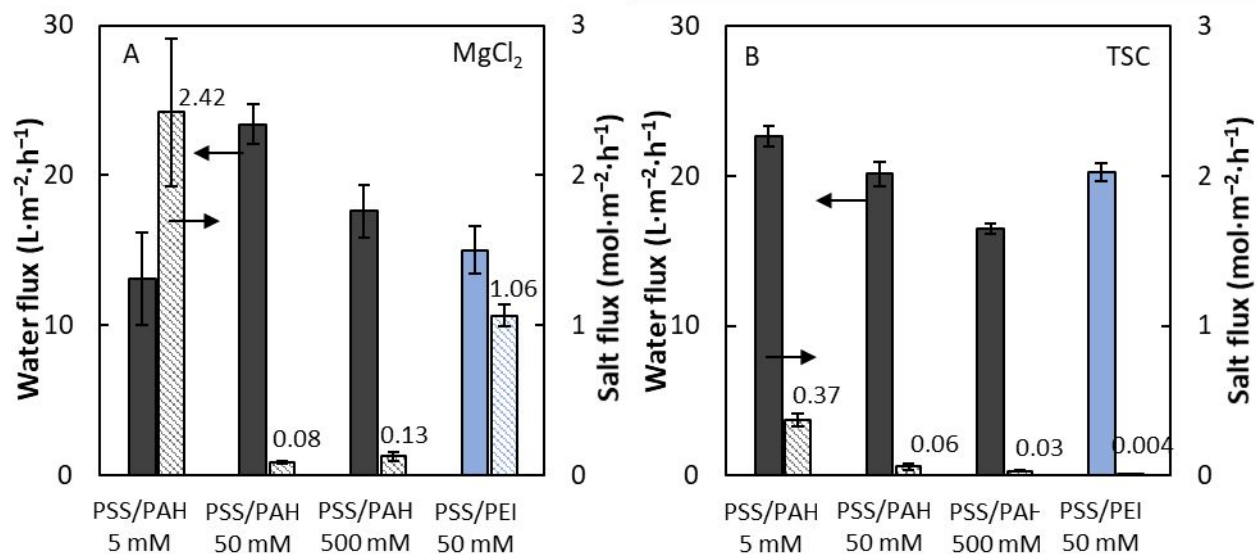


Figure S2: Water fluxes (solid bars on the left y-axis's) and molar salt fluxes (patterned bars on the right y-axis's) of various FO measurements at which a demineralized feed was used facing the active layer (FS-AL) and a draws solution with an osmotic pressure of 36 bar. Using MgCl₂ (A) as a draw solution and TSC (B) for PSS/PAH (built at 5, 50, and 500 mM, black columns) and PSS/PEI (built at 50 mM, blue columns). Error bars are standard deviations of 5 different PEM membranes.

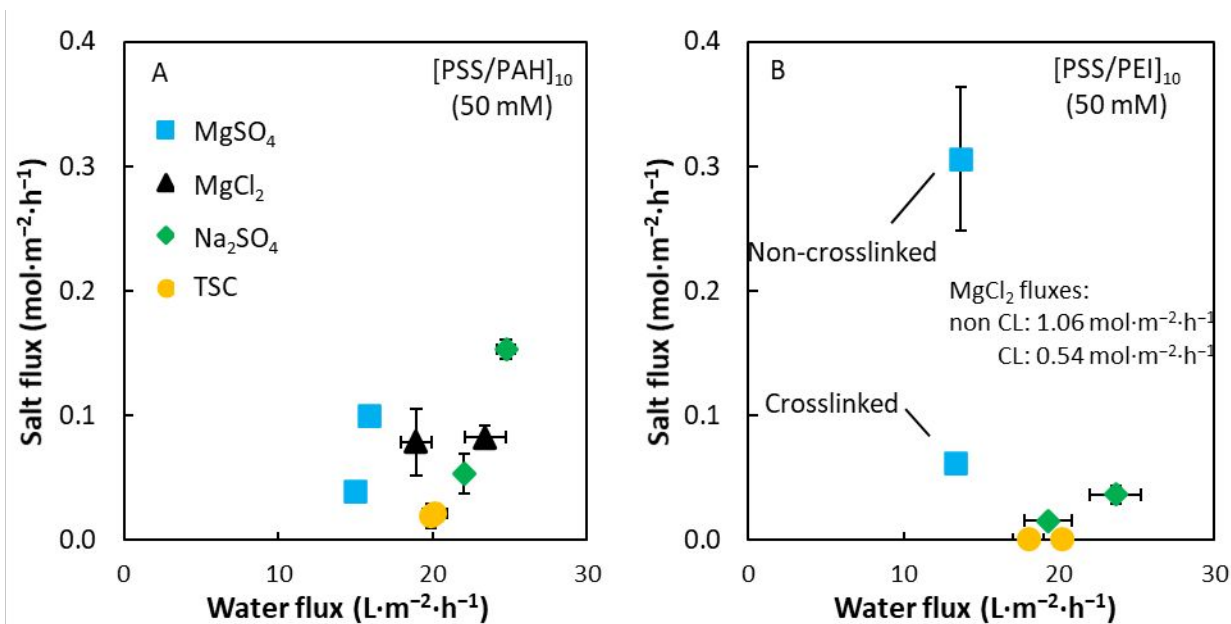


Figure S3: Molar salt flux as function of the water flux for PSS/PAH (A) and PSS/PEI (B) PEM membranes for a variety of draw solutions: MgSO_4 blue and square symbols; MgCl_2 black and triangle symbols; Na_2SO_4 green and diamond symbols; and TSC yellow and circle symbols. The non-crosslinked (non-CL) PEM membranes have solid symbols and the crosslinked (CL) PEM membranes have open symbols. Error bars are standard deviation from 5 different membrane samples.