

Cover Page for Supplementary Materials

Manuscript title:

Study on the concentration of acrylic acid and acetic acid by reverse osmosis

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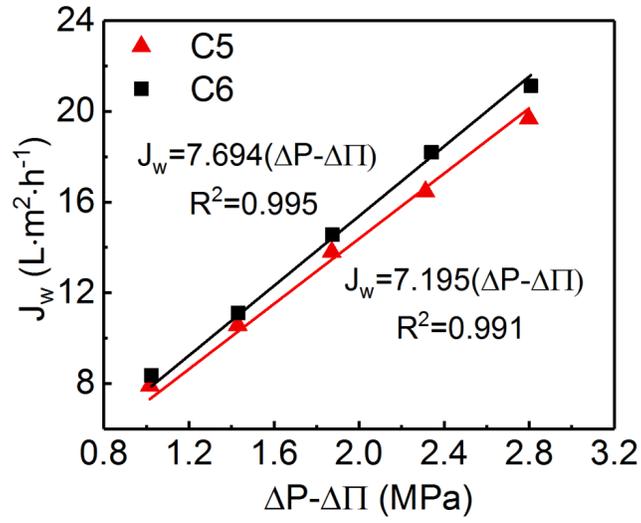


Figure S1. Determination of the water permeability of the membranes for the acid solution.

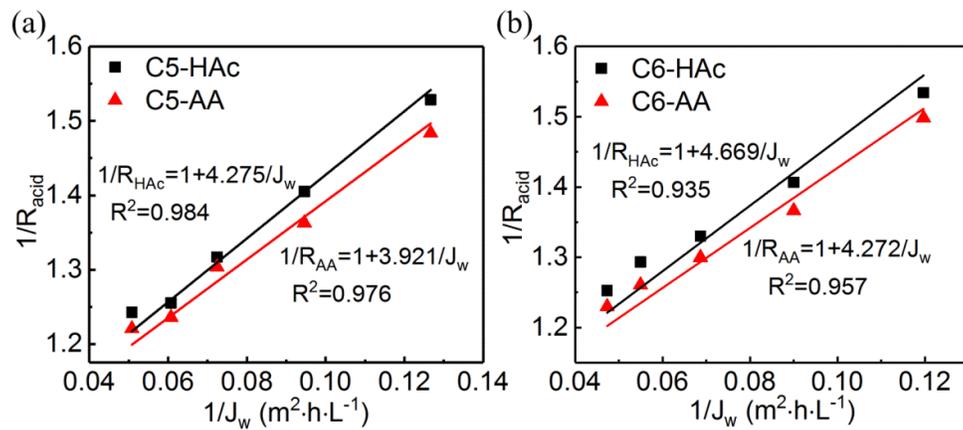


Figure S2. Determination of the acid transport coefficients of the C5 (a) and C6 (b) by fitting the acid retention and water flux at different pressures.

Table S1. Comparison of the acetic retention with those in the literature.

Membrane	Pressure (MPa)	pH	Feed solution	HAc retention (%)	Ref.
AG	4.0	-	7% HAc+15% glucose	< 40	[27]
RO98pHt	4.0	2.93	25 g/L xylose+10g/L glucose+ 5 g/L HAc	65.94	[20]
BW30FR	4.0	2.78	model solution	78.72	[29]
XLE	3.0	3	model solution	80	[30]
C5	4.0	2.39	2.5% AA+1.5% HAc	81.92	This
C6	4.0	2.39	2.5% AA+1.5% HAc	81.32	work

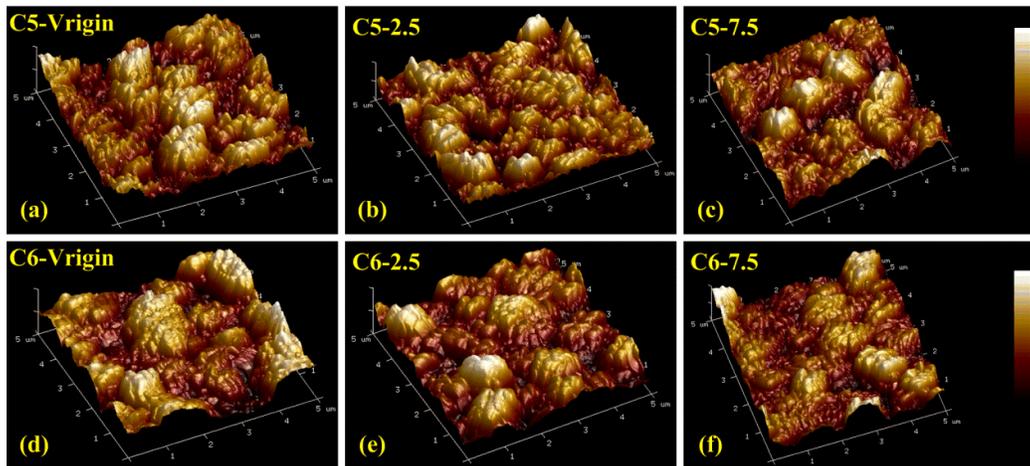


Figure S3. AFM images of RO membranes: (a, d) prior to exposure and (b, c, e, f) after 6 months of exposure to the acid solutions.

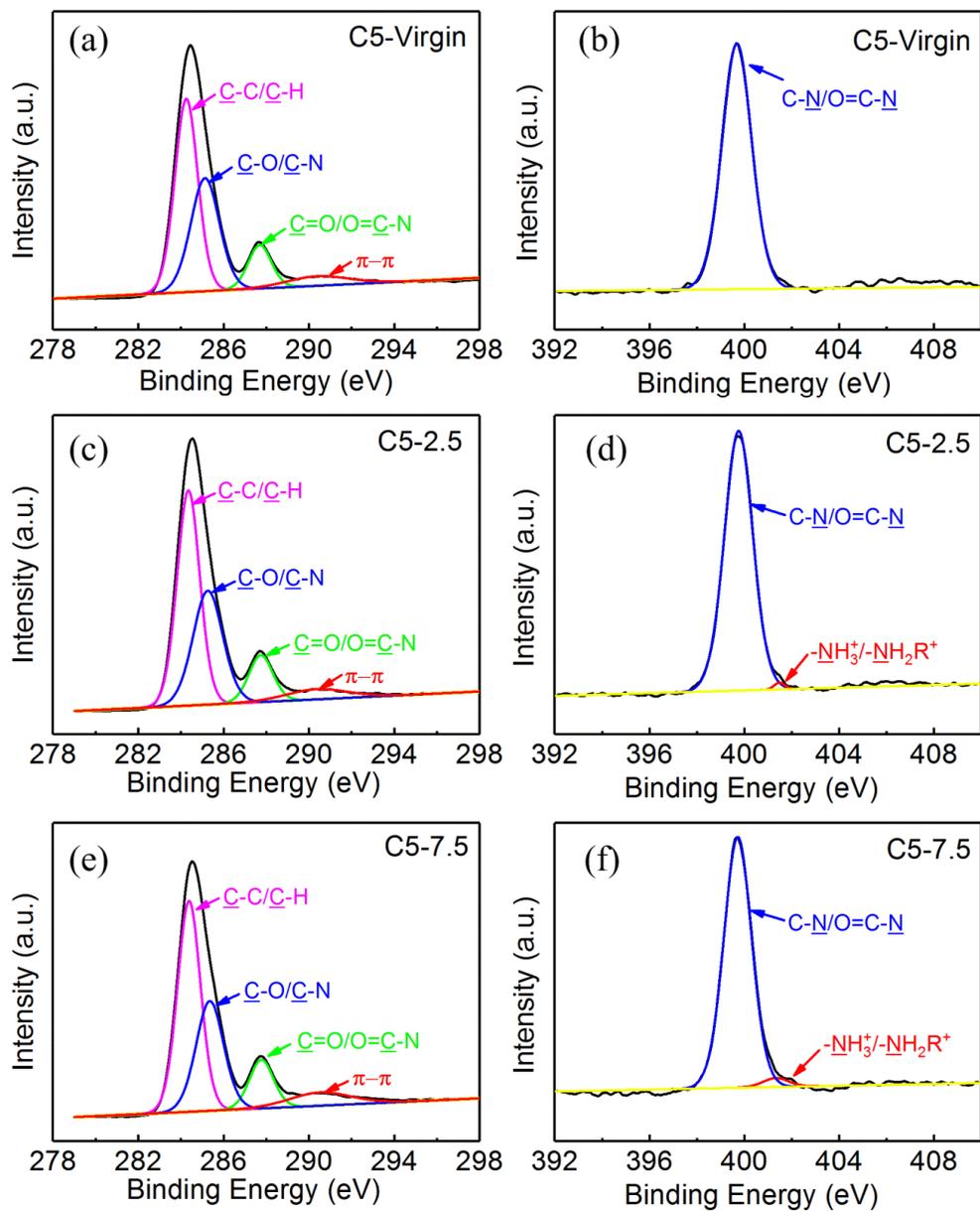


Figure S4. The C1s spectra and N1s spectra of C5 membranes: (a, b) prior to exposure and (c, d, e, f) after 6 months of exposure to the acid solutions.

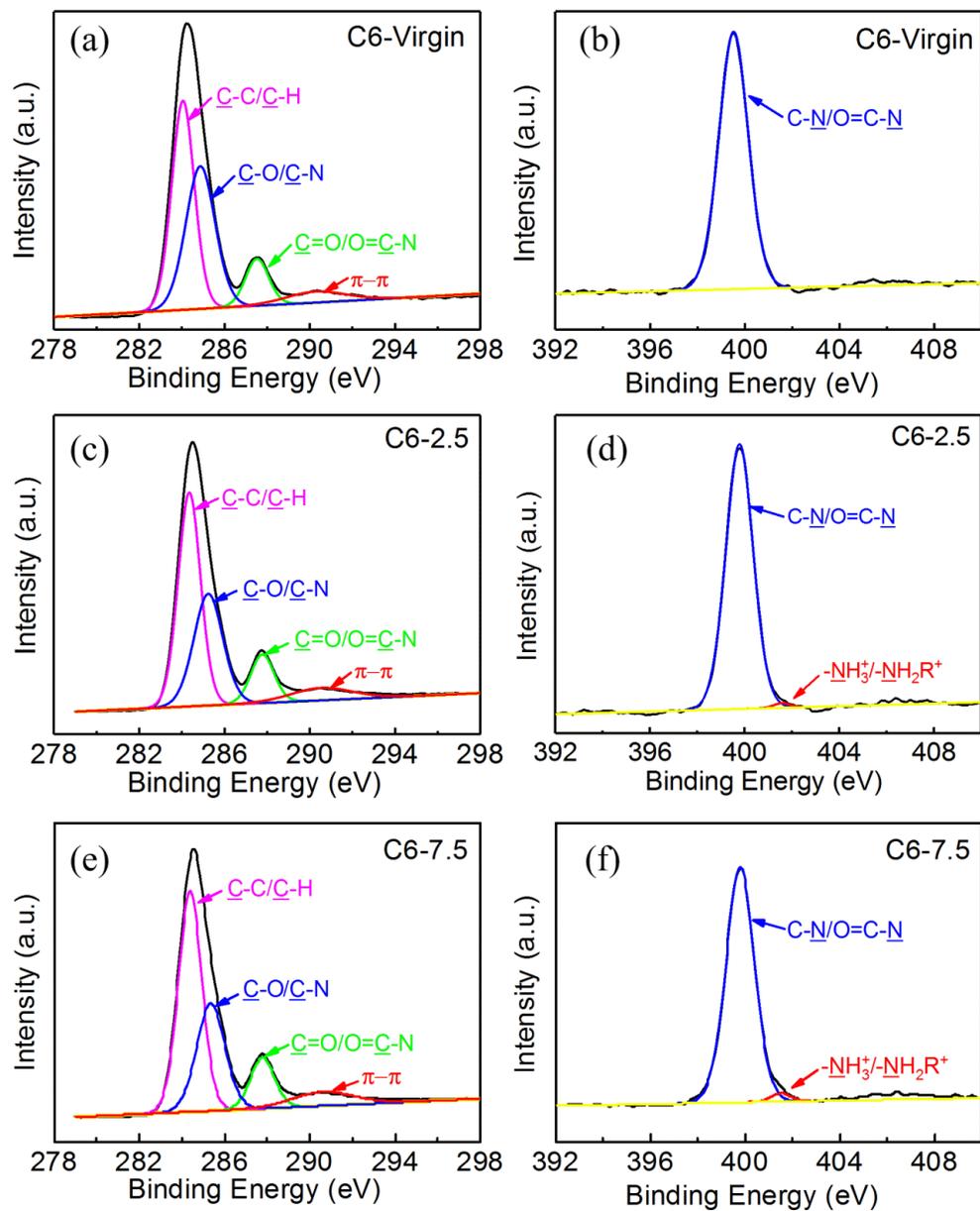


Figure S5. The C1s spectra and N1s spectra of C6 membranes: (a, b) prior to exposure and (c, d, e, f) after 6 months of exposure to the acid solutions.