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Supporting Information

pH-Responsive nanofiltration membranes based on porphyrin supramolecular self-assembly by layer-by-layer technique

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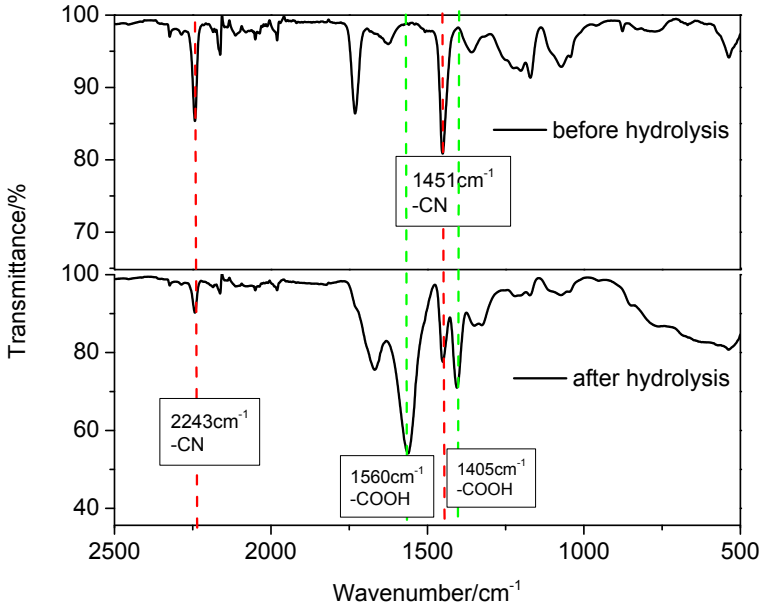

Fig. S1 ATR-IR spectra of PAN membranes substrate and after hydrolysis

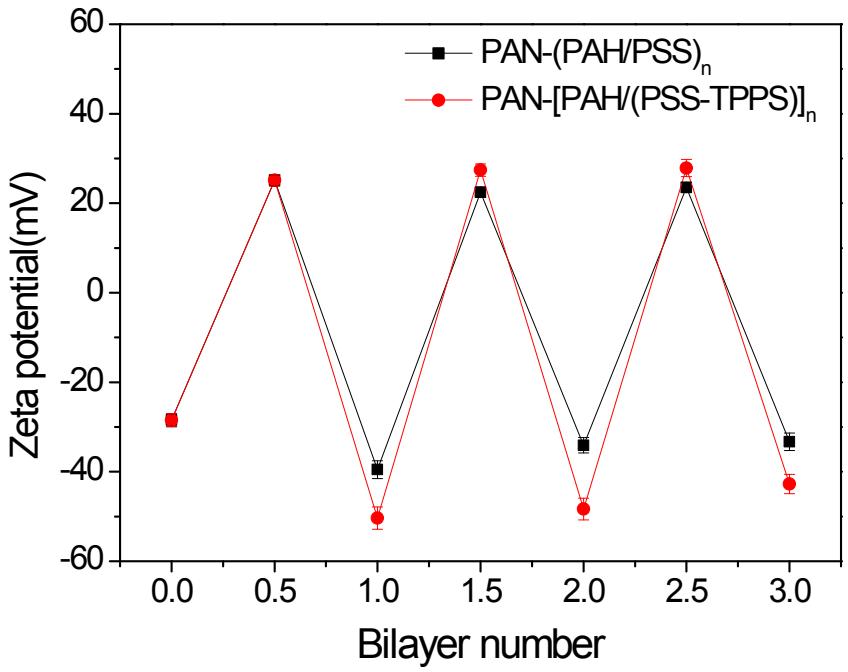

Fig. S2 Zeta potential of PAN-$(PAH/PSS)_n$ membranes and PAN-$[PAH/(PSS-TPPS)]_n$ membranes with different layers prepared at 0.5 M of salt and pH 6.5.

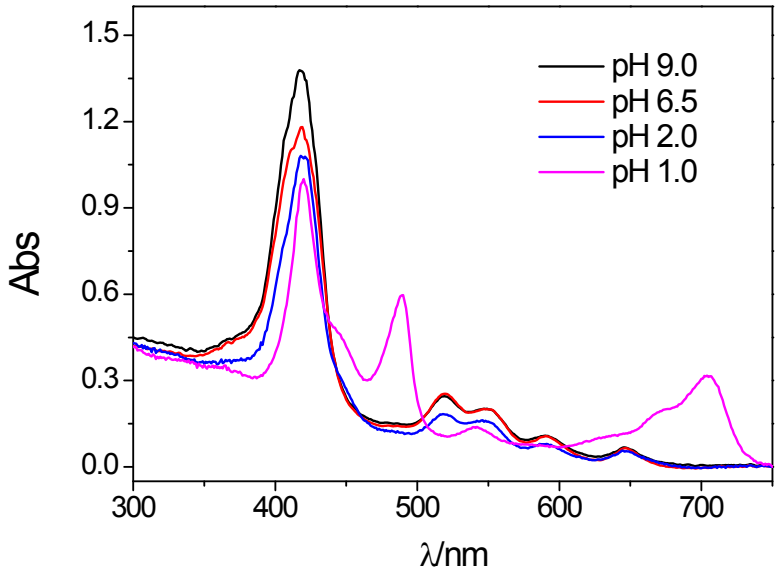

Fig. S3 DRUV spectra of PAN-[PAH/(PSS-TPPS)]$_6$/(PAH/PSS) membranes prepared from PAH and PSS-TPPS solutions at pH 6.5 and followed by equilibration with buffers at different pH values for 2 h.

Table S1. Comparative performances of different types of LbL NF membranes

Outer polymer	Cross-linking time (min)	J (L/m^{2}h, 0.2 MPa)	R (%)	
			$MgSO_4$	Na_2SO_4
PAH	0	14.04	82.64	49.64
PSS	0	13.67	84.34	50.08
PAH	60	12.96	92.54	63.60
PSS	60	12.05	93.52	67.70
PAH	100	12.14	93.04	66.88
PSS	100	11.55	93.57	72.31
PAH	120	11.70	93.22	70.11
PSS	120	10.89	93.70	74.58
PAH	150	8.60	94.15	80.25
PSS	150	6.87	95.02	88.62