Electronic Supplementary Material (ESI) for Soft Matter.

Supplementary Information

Tuning the Charge of the Polyelectrolyte Complexes Membranes Prepared via Aqueous Phase Separation

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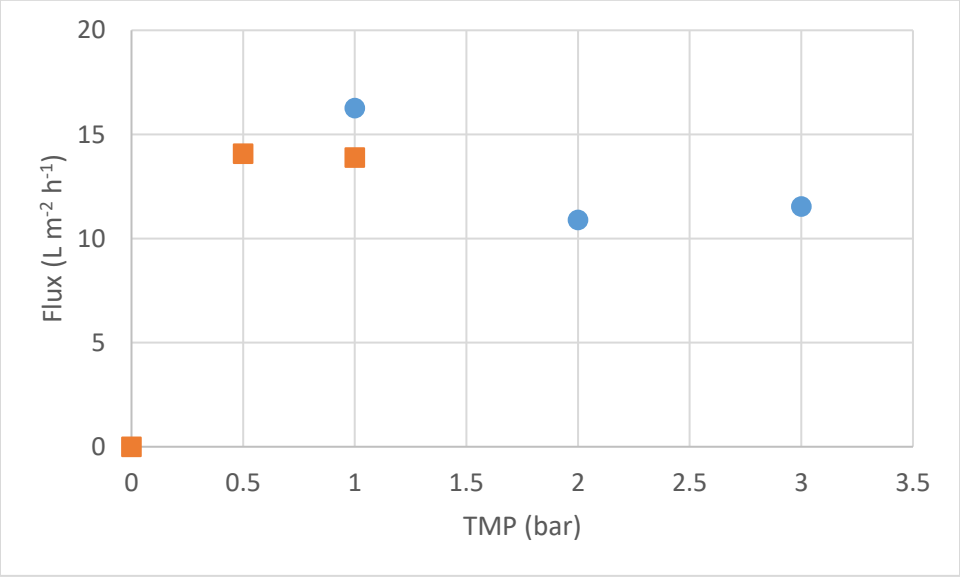

Figure S1. Flux against transmembrane pressure plot of 1.0:1.2 membrane. Results for two distinct samples showing that this membrane is not stable pressures higher than 0.5 bar.

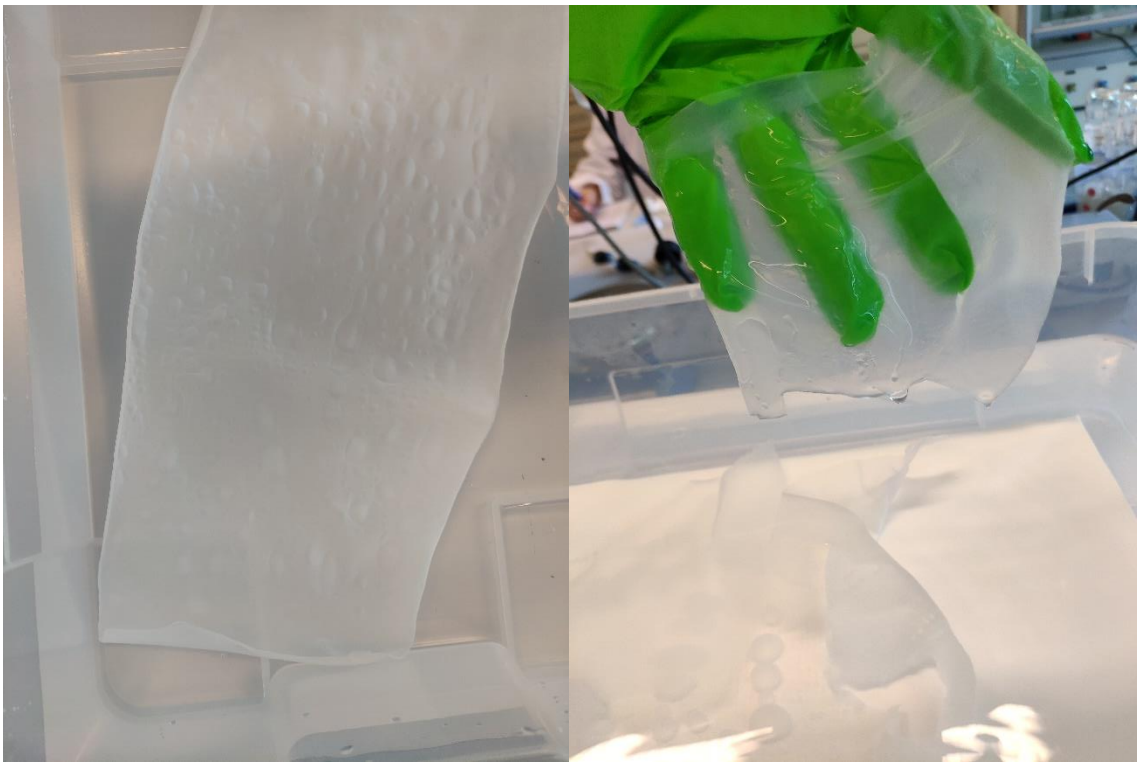

Figure S2. PSS-PDADMAC solution in 1.0:0.7 (left) and 1.0:1.5 (right) ratio was cast an immersed in MilliQ water. 1.0 0.7 films was cast in the size of approximately 2/3 of the one seen in the photograph, during coagulation it got swollen. 1.0:1.5 film was translucent and gel-like due to being highly swollen and this led to very weak films.

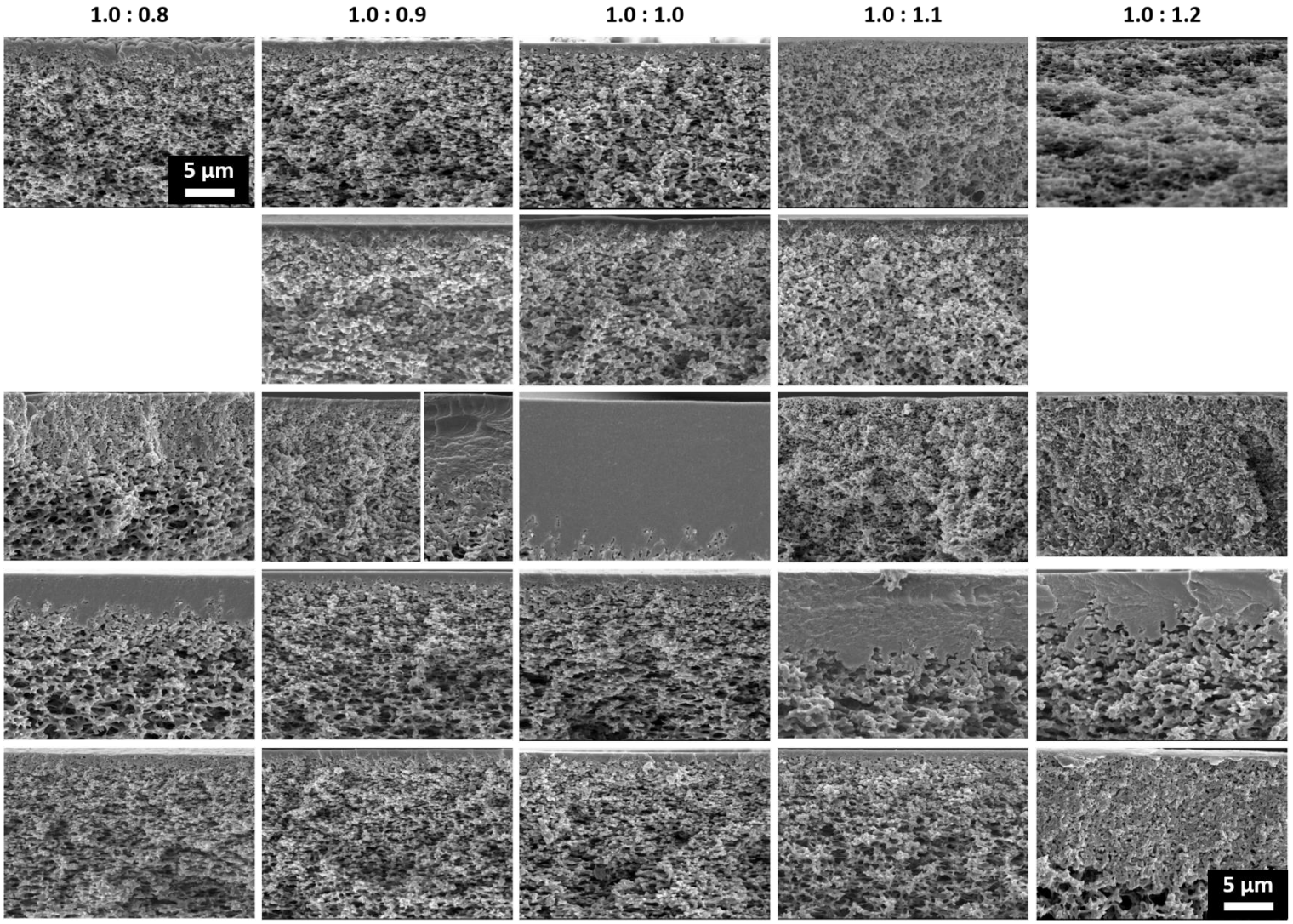

Figure S3. SEM images of cross–sections of membranes prepared in varying ratio at ×5000 magnification. Images are focused on the skin layer side of the cross–section. Each row represents one set of solutions prepared and precipitated at the same time. All membrane sets were prepared in exactly same way. There are two images in the third row of the 1.0:0.9 membranes. Both images belong to the same membrane sheet, however samples were dried at different times. Skin layers larger than 5 µm are not included in Figure 1c.

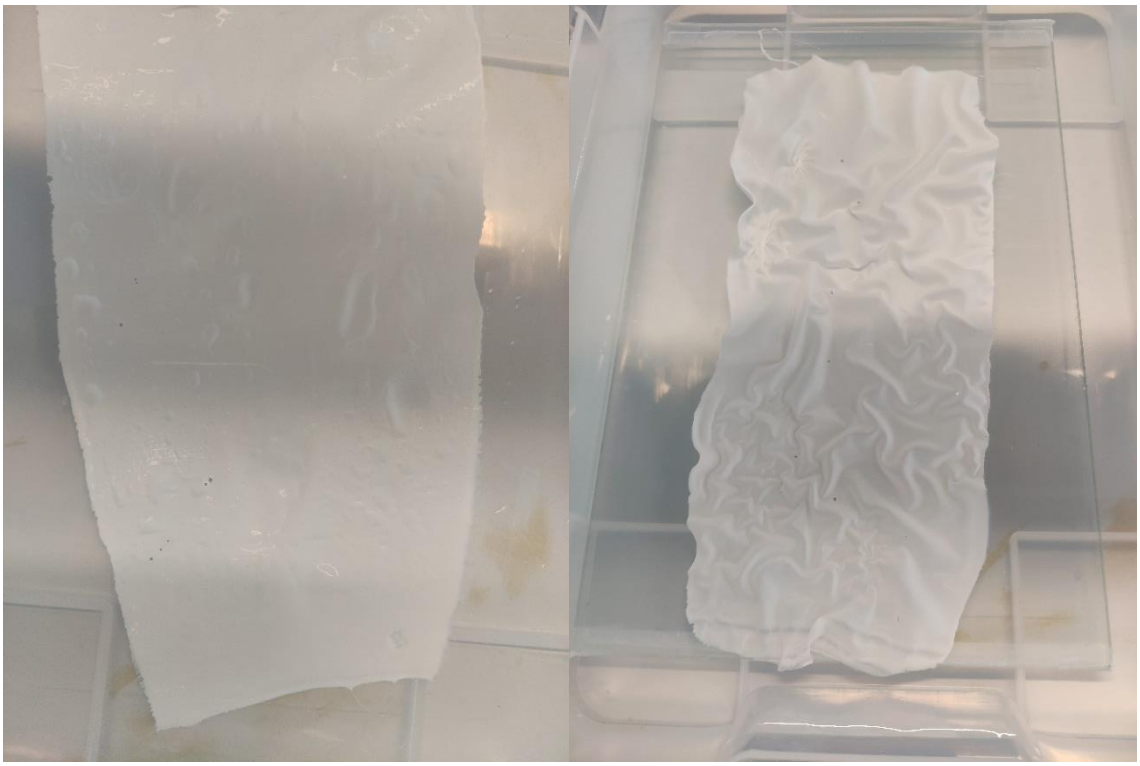

Figure S4. PSS-PDADMAC 1.0 0.8 (left) and 1.0 1.2 (right) membranes. Bumps and wrinkles are due to swelling. Both membranes were cast in smaller sizes and they got swollen during coagulation. When compared to each other, 1.0 1.2 membranes are more swollen and softer.

Table S1. Molecular weight cut-off and extent of leaks during filtrations of PEG solutions.

Mixing Ratio	**Molecular Weight Cut-off**	
	Cut-off (Da)	Leak (%)
1.0 0.8	340 ± 30	8 ± 3
1.0 0.9	280 ± 20	20 ± 10
1.0 1.0	260 ± 30	20 ± 15
1.0 1.1	370 ± 30	20 ± 10
1.0 1.2	380 ± 10	15 ± 10