Shown in Table 3 below are water permeance and permeability of membranes prepared with IL20 copolymer casting solutions using different membrane manufacturing methods. The study was performed on IL20 membranes prepared using different drying times during membrane formation (samples 3-1, 3-2, 3-3 and 3-4) and that prepared without drying but by direct immersion in a non-solvent bath (sample 2-3).

It was found that permeances of IL20_c, IL20_d, IL20_e membranes prepared using various drying times of at least 2 minutes during membrane formation (samples 3-2, 3-3, and 3-4; Table 3) were much lower than the permeances of IL20. The permeance of IL20_b membrane prepared with a short drying time of 20 seconds during membrane formation (sample 3-1, Table 3) unexpectedly showed permeances that were an order of magnitude higher than neat P40 membrane, and similar to IL20 membrane prepared by non-solvent immersion (sample 2-3, Table 3). This indicates that fast drying times (20 seconds) or isopropanol immersion during membrane formation unexpectedly led to membranes with high permeances, much higher than commercial Nanofiltration (NF) membranes despite the thicker coatings. IL20 membranes tested had coatings that were always > 1 μm in thickness. In comparison, commercial NF membranes have selective layers as thin as < 0.1 μm. Indeed, higher fluxes can be obtained with these membranes by using the coating methods described above.

Table 3. Water permeance and permeability of membranes prepared with IL20 copolymer casting solutions using different membrane manufacturing methods

Membrane	Drying time before water immersion	Non-solvent before water immersion	Permeance ($L/m^2h.bar$)	Permeability ($L.\mu m/m^2h.bar$)
IL20 (sample 2-3)	N/A	Isopropanol (20 min)	50 ± 2	125 ± 2
IL20_b (sample 3-1)	20 sec	N/A	20.4 ± 0.8	55.08 ± 1
IL20_c (sample 3-2)	2 min	N/A	3.3 ± 0.2	5 ± 0.3
IL20_d (sample 3-3)	10 min	N/A	2.9 ± 0.6	11.8 ± 0.8
IL20_e (sample 3-4)	20 min	N/A	1 ± 0.5	5.7 ± 0.6