

1/15

FIG. 1

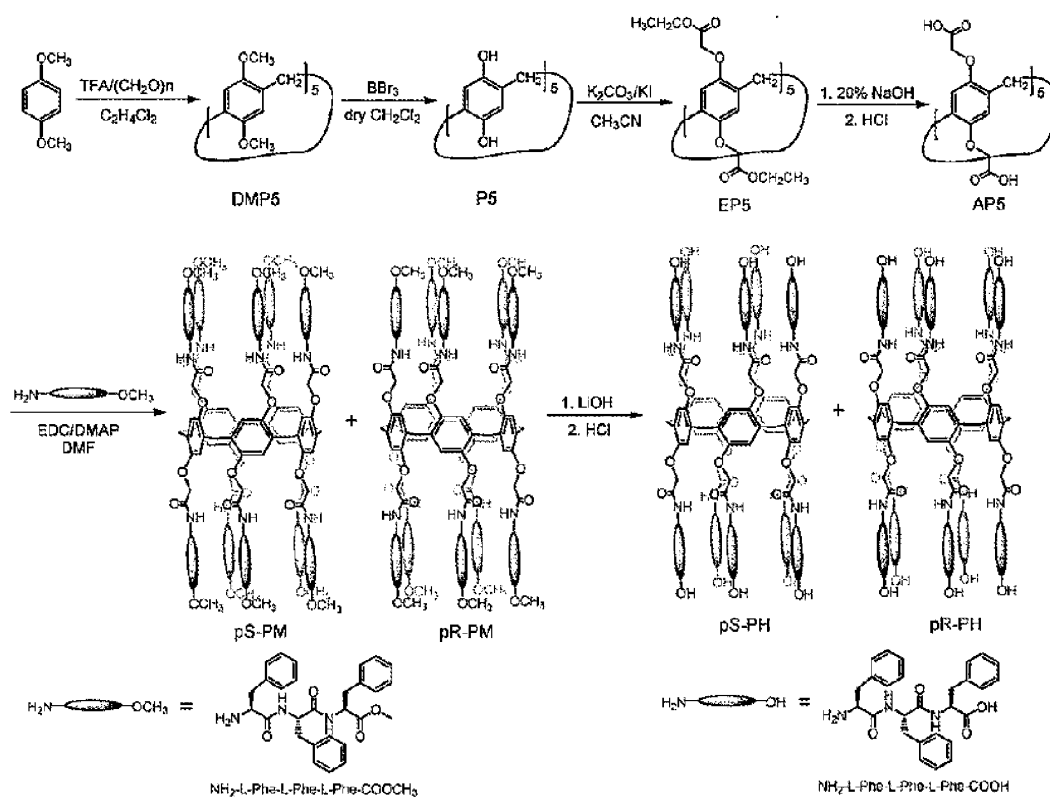
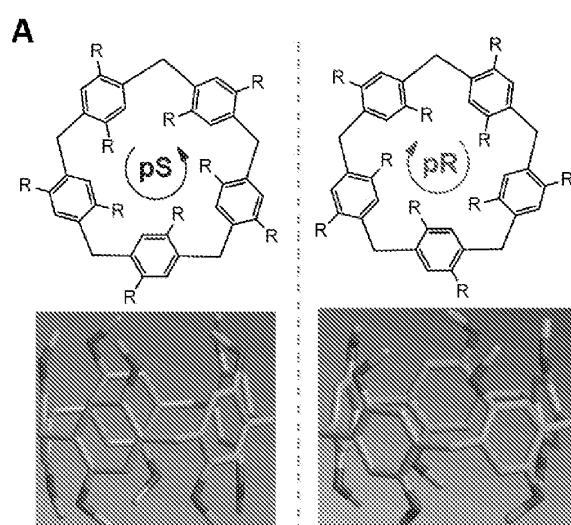
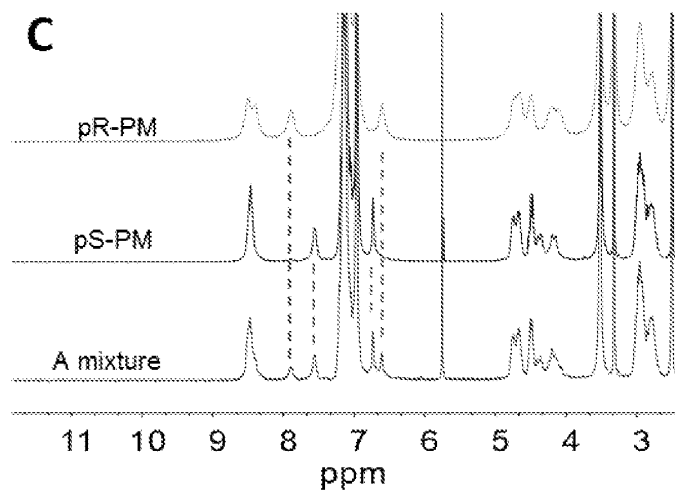
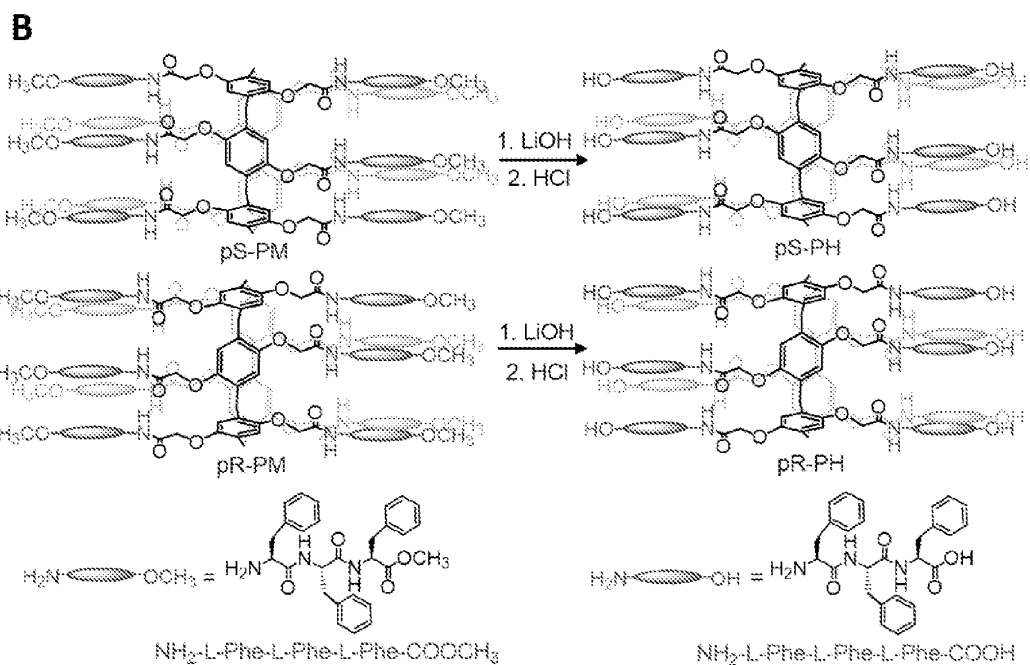


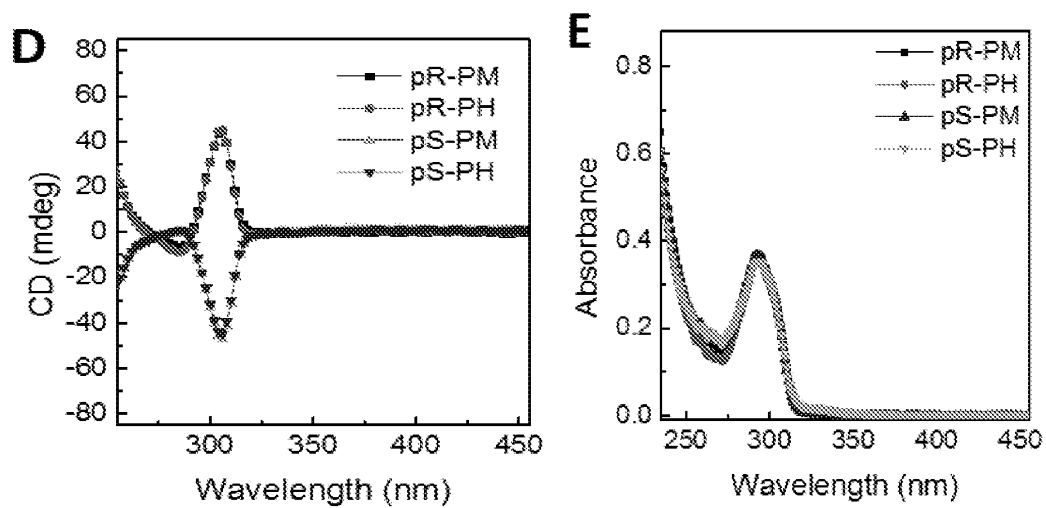
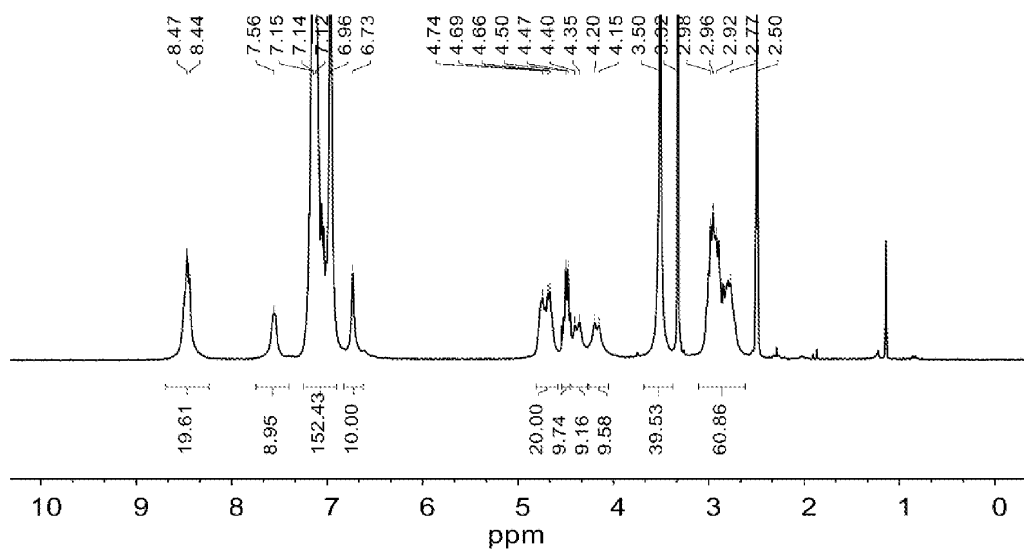
FIG. 2



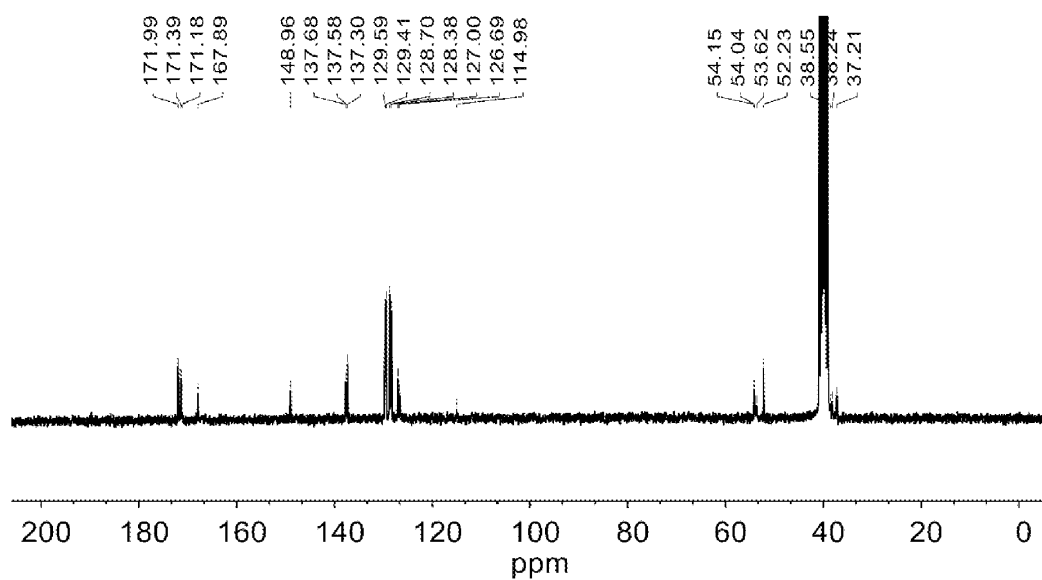
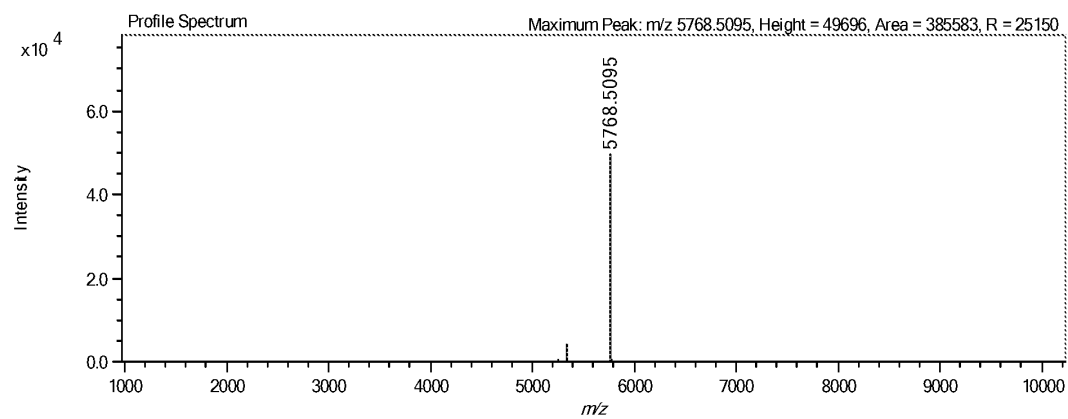
2/15

FIG. 2 (Continued)

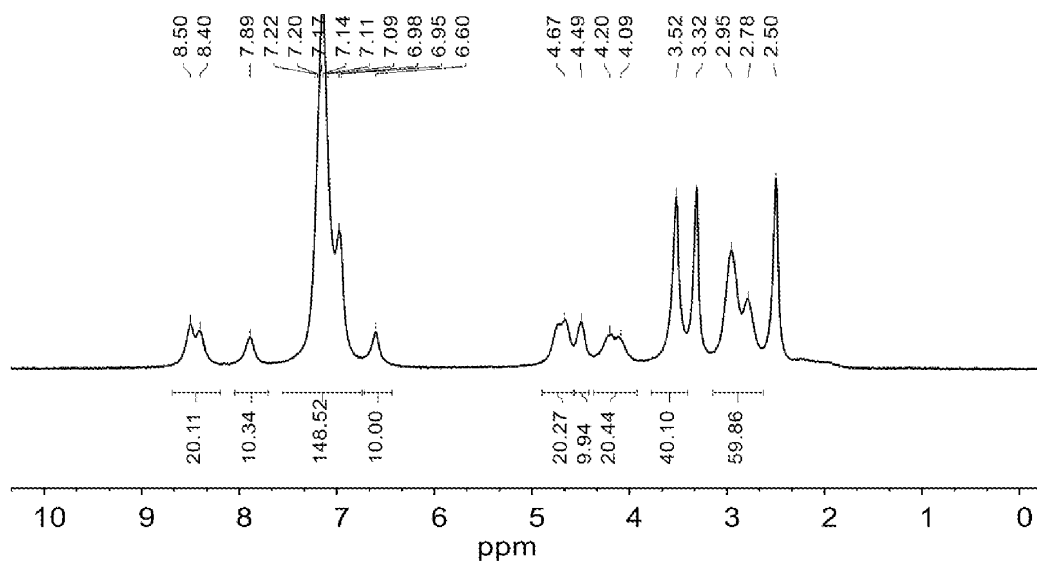
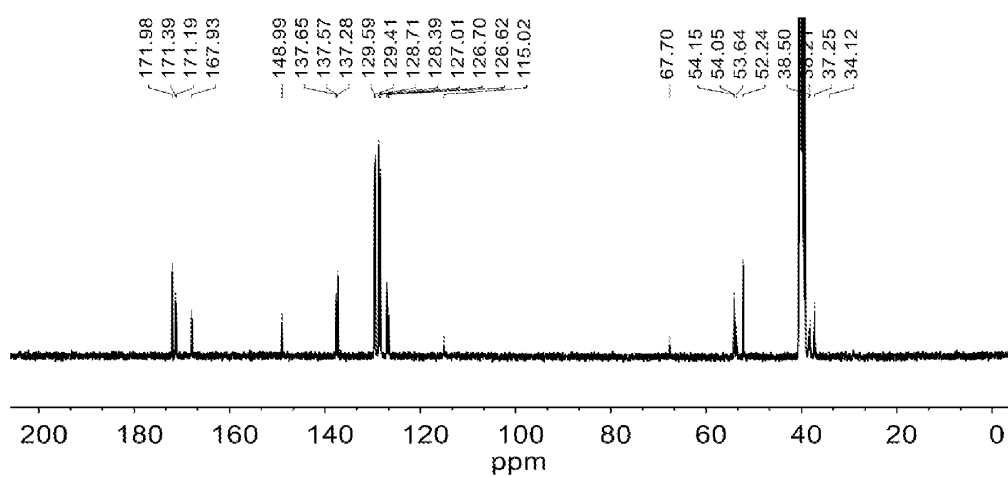
3/15

FIG. 2 (Continued)**FIG. 3**

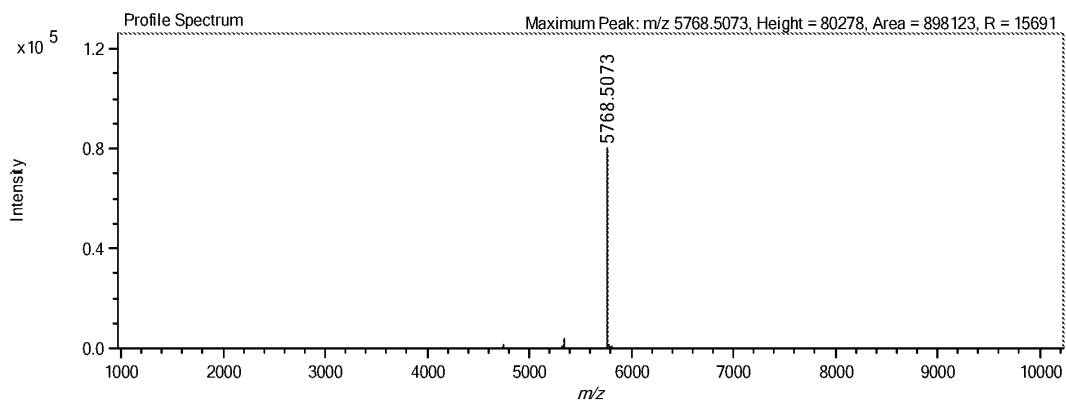
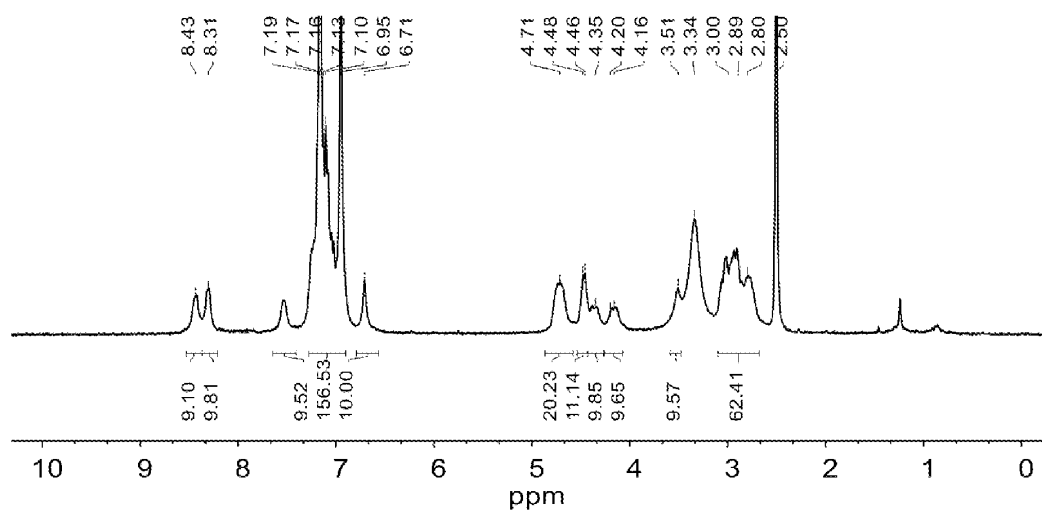
4/15

FIG. 4**FIG. 5**

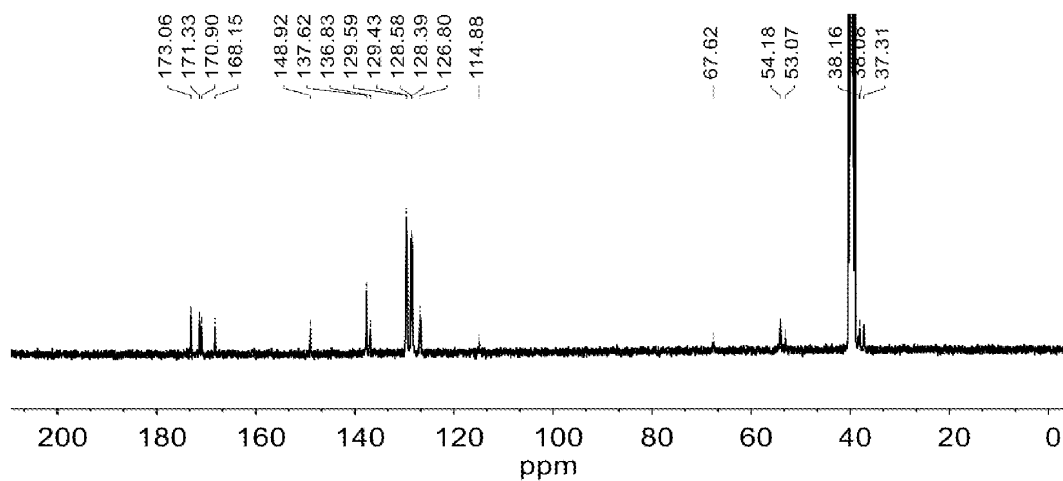
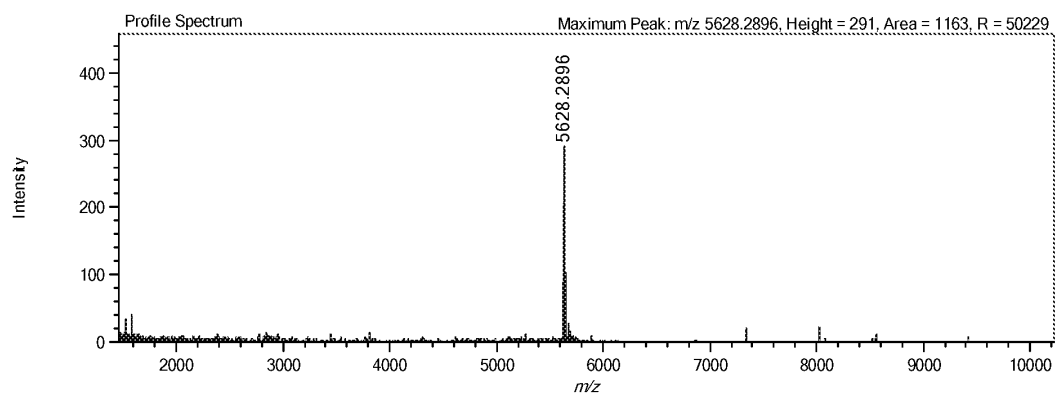
5/15

FIG. 6**FIG. 7**

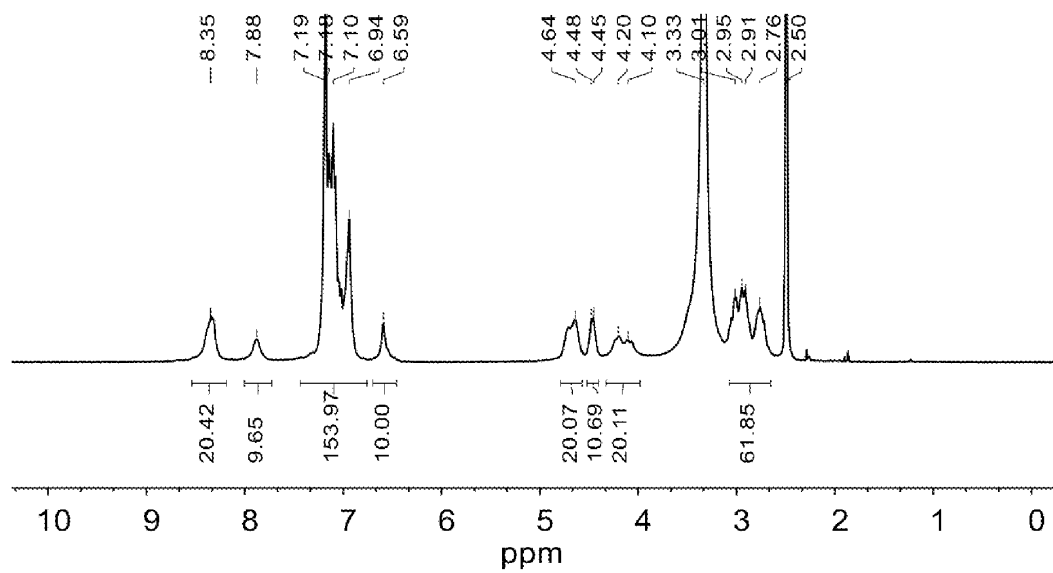
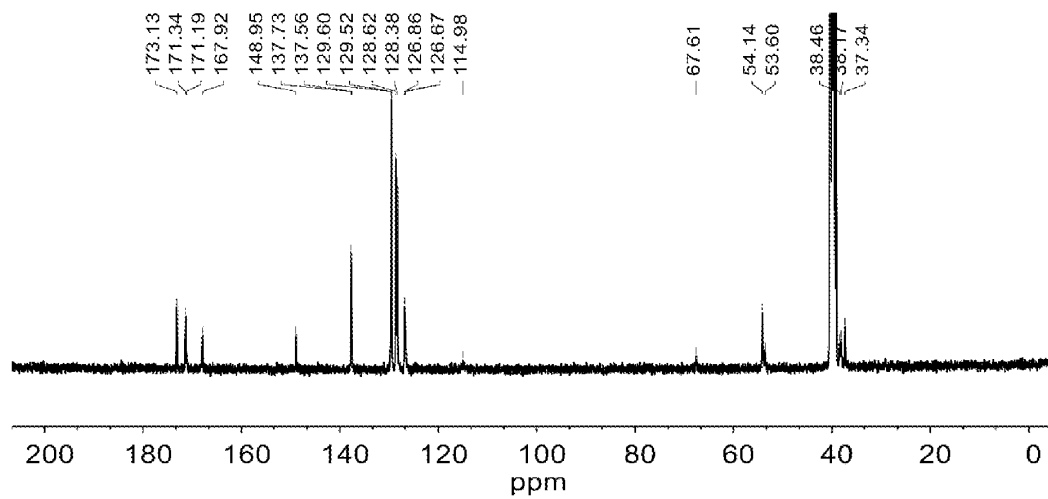
6/15

FIG. 8**FIG. 9**

7/15

FIG. 10**FIG. 11**

8/15

FIG. 12**FIG. 13**

9/15

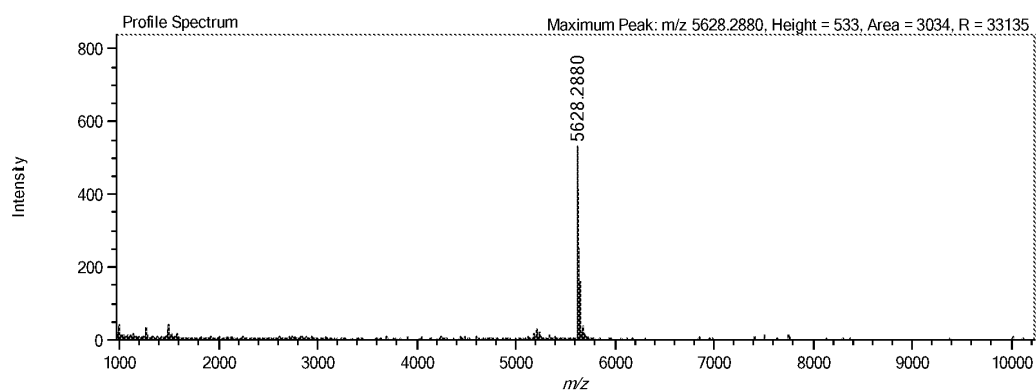
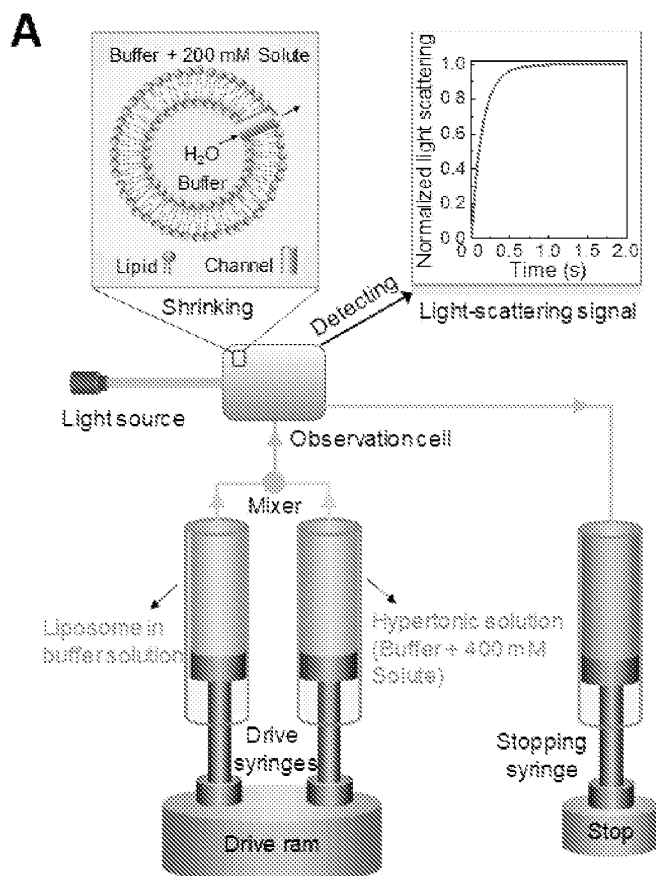
FIG. 14**FIG. 15**

FIG. 15 (Continued)

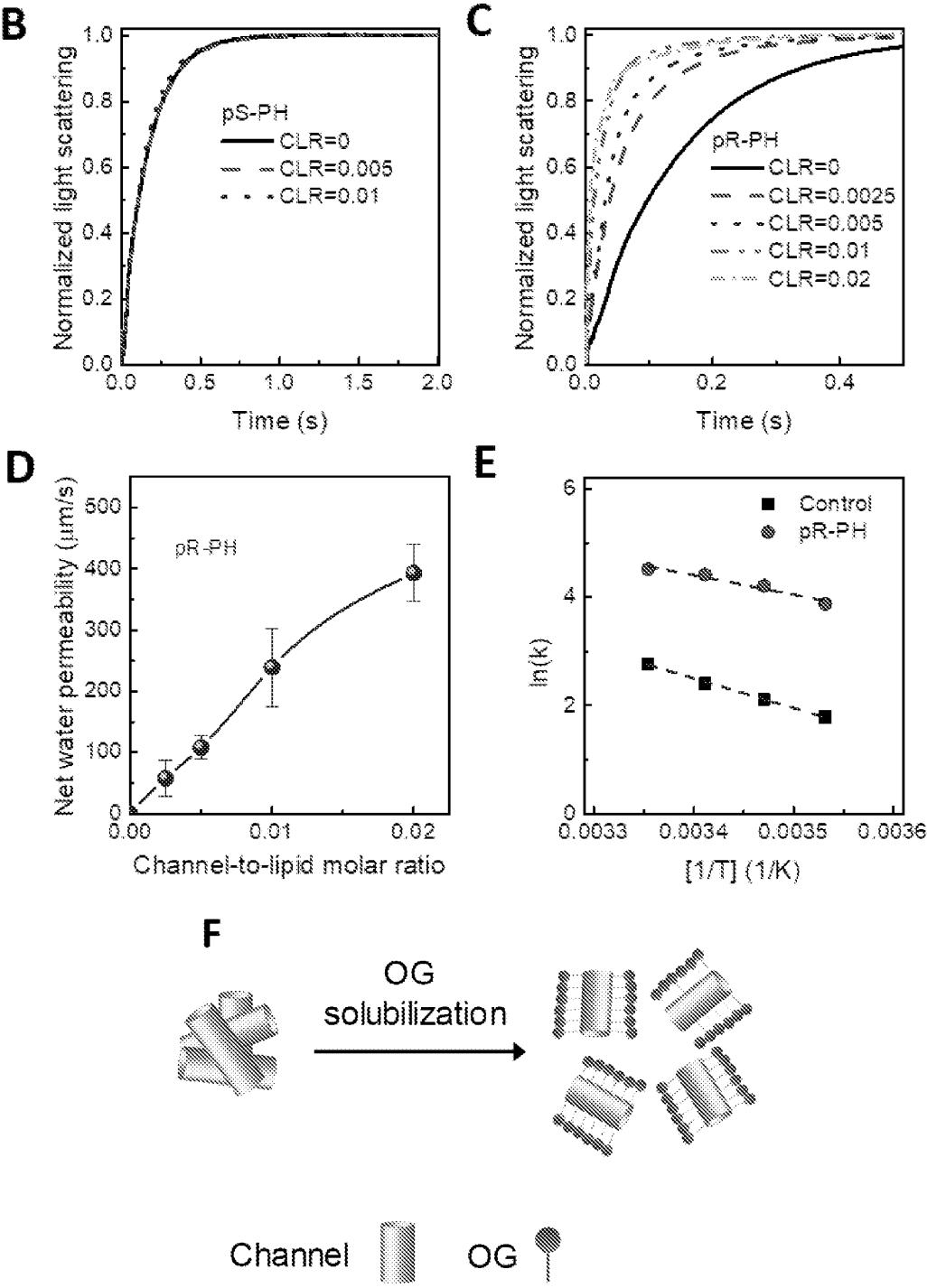


FIG. 15 (Continued)

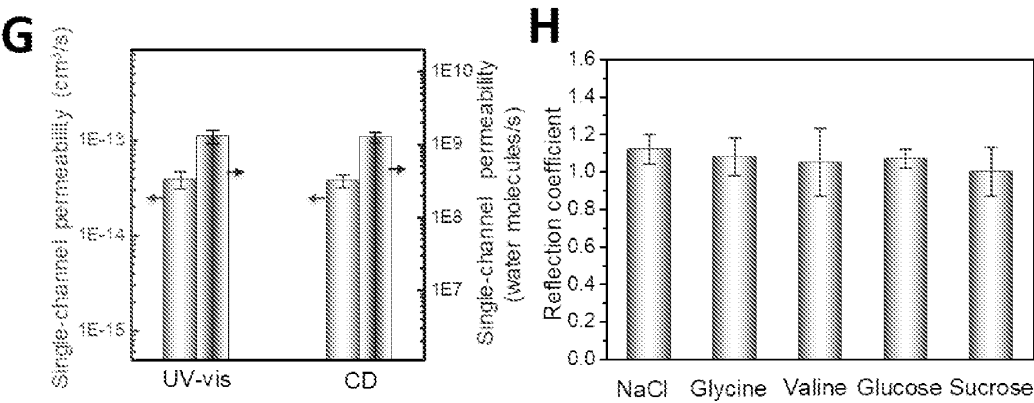
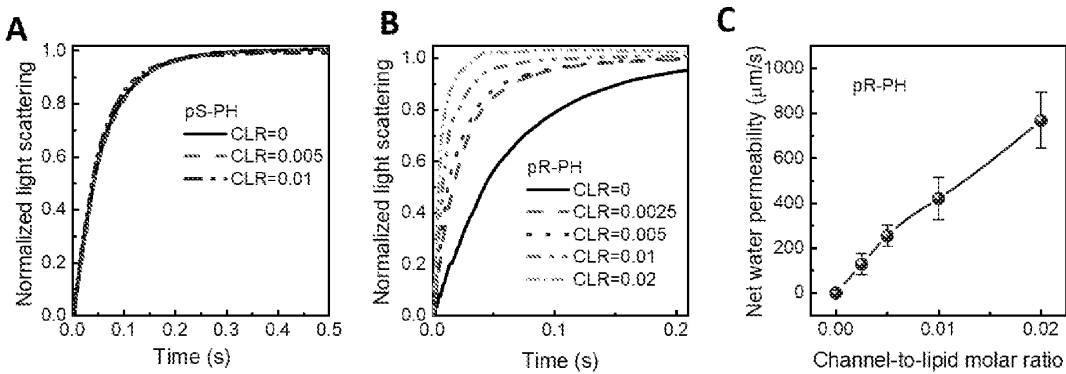


FIG. 16



12/15

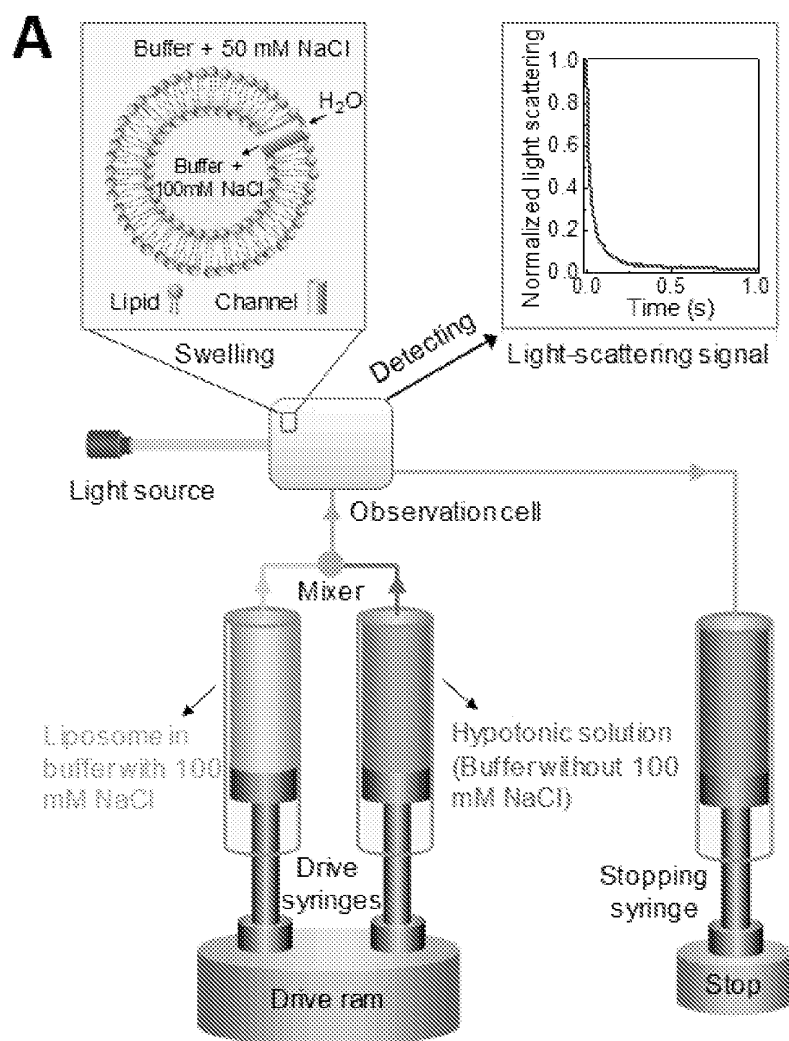
FIG. 17

FIG. 17 (Continued)

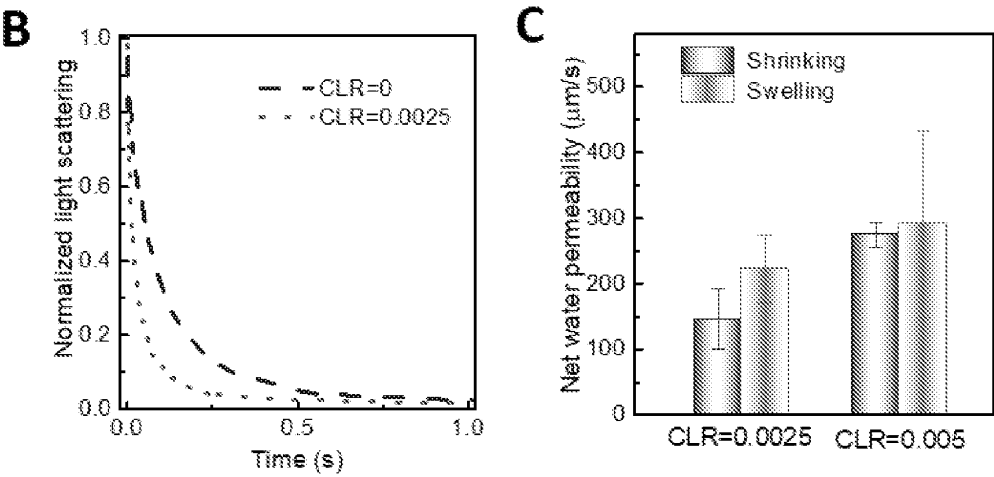


FIG. 18

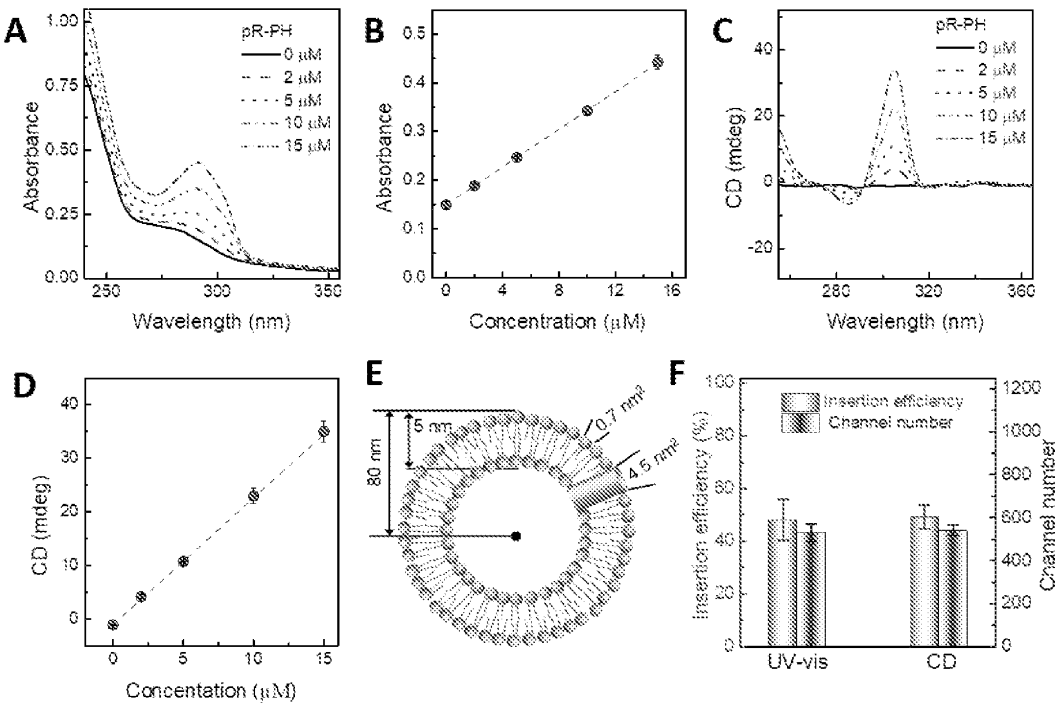
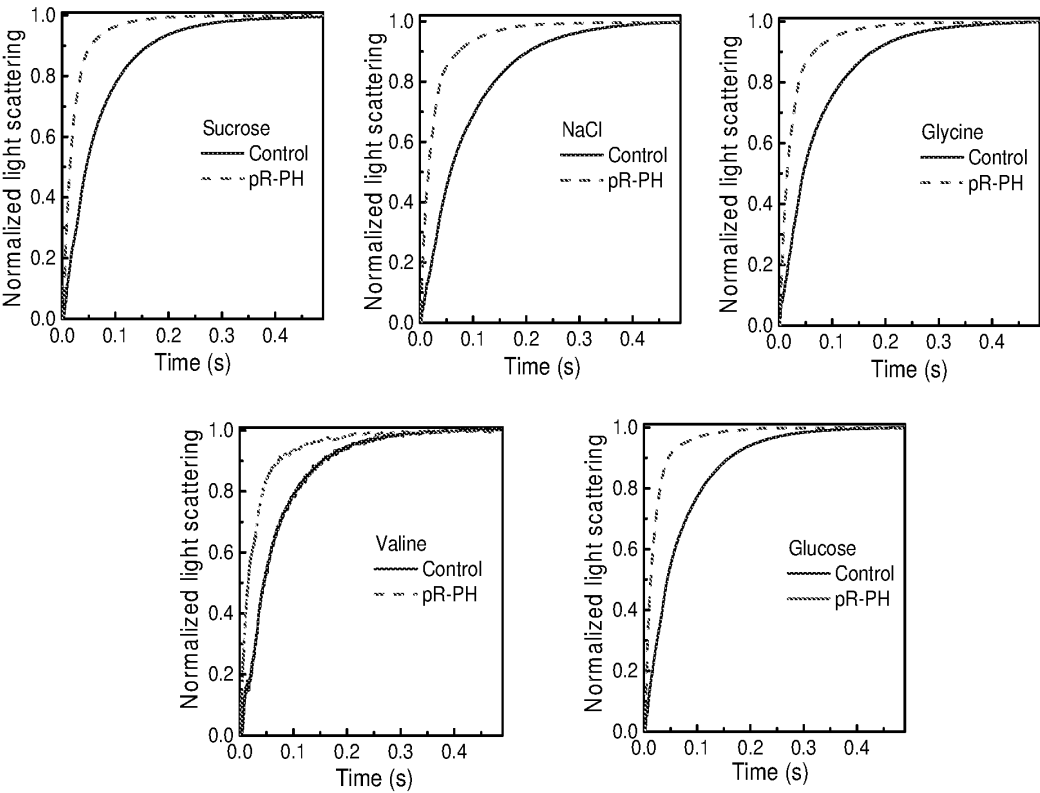


FIG. 19



15/15

FIG. 20

Channel	Net permeability ($\mu\text{m/s}$)	Single channel permeability	Selectivity
Aquaporin 1 – AQP1	443	$11.7 \times 10^{-14} \text{ cm}^3/\text{s}$, 4×10^9 water molecules/s/channel	Perfect rejection of ions and protons
Dendritic dipeptide, (4-3,4-3,5)-12G2-CH ₂ -Boc-L-Tyr-L-Ala-OMe	No report	No reported	Reject ions except protons
I-quartet Channels, Alkylureidoimidazoles	1.0- 4.0	1.5×10^6 water molecules/s/channel	Reject all ions except protons
Tubular pores from arylene-ethynylene macrocycle	7	4.9×10^7 water molecules/s/channel	High conduction for K and protons
Bola-amphiphile bis-triazole (TCT)	No report	No report	Conduction for ions and protons
Hydrazide appended Pillar[5]arenes	8.6×10^{-6}	40 water molecules/s/channel	No selectivity for water
Peptide-appended Pillar[5]arenes	0.03-0.35 (shrinking), 30 (swelling)	3.5×10^8 (swelling) and 3.7×10^6 water molecules/s/channel (shrinking)	No selectivity for water, no rejection for NaCl
Carboxylic acid triarylamine	17	No calculation	No report
Aquaporin Z – AqpZ	346	$3.1 \times 10^{-14} \text{ cm}^3/\text{s}$, 1.0×10^9 water molecules/s/channel	Perfect rejection for NaCl
pR-PH Channel (current work)	58-783	$3.9 \times 10^{-14} \text{ cm}^3/\text{s}$, 1.3×10^9 water molecules/s/channel	Perfect rejection for NaCl and small solutes