**Supplemental Information:**

**Fig 1.S** Theoretical XPRD for the beta polymorph of 4NP, obtained from the Cambridge Structural Database.

**Fig 2.S** Experimentally obtained XPRD of 4NP, taken from a sample crystallized in water with no complexing agent. The graph matches with that of the beta form in Fig 1.
Fig 3.5 Experimentally obtained XPRD of 4NP, taken from a sample crystallized in water with 3ABA as the complexing agent. The graph matches with that of the beta form in Fig 1.

Fig 4.5 Theoretical XPRD for the alpha polymorph of 4NP, obtained from the Cambridge Structural Database.
Fig 5.5 Experimentally obtained XPRD of 4NP, taken from a sample crystallized in toluene with no complexing agent. The graph matches with that of the alpha form in Fig 4.

Fig 6.5 Evolution of the retentate and permeate concentrations over time in the control membrane experiment (no complexing agent used).
Fig 7.5 Evolution of the retentate and permeate concentrations over time in the 3ABA+3NP membrane experiment.

Fig 8.5 TGA curve of 3NP and 4NP. The curves are overlapped to show the differences in mass loss between the two compounds.