

Supplementary Materials

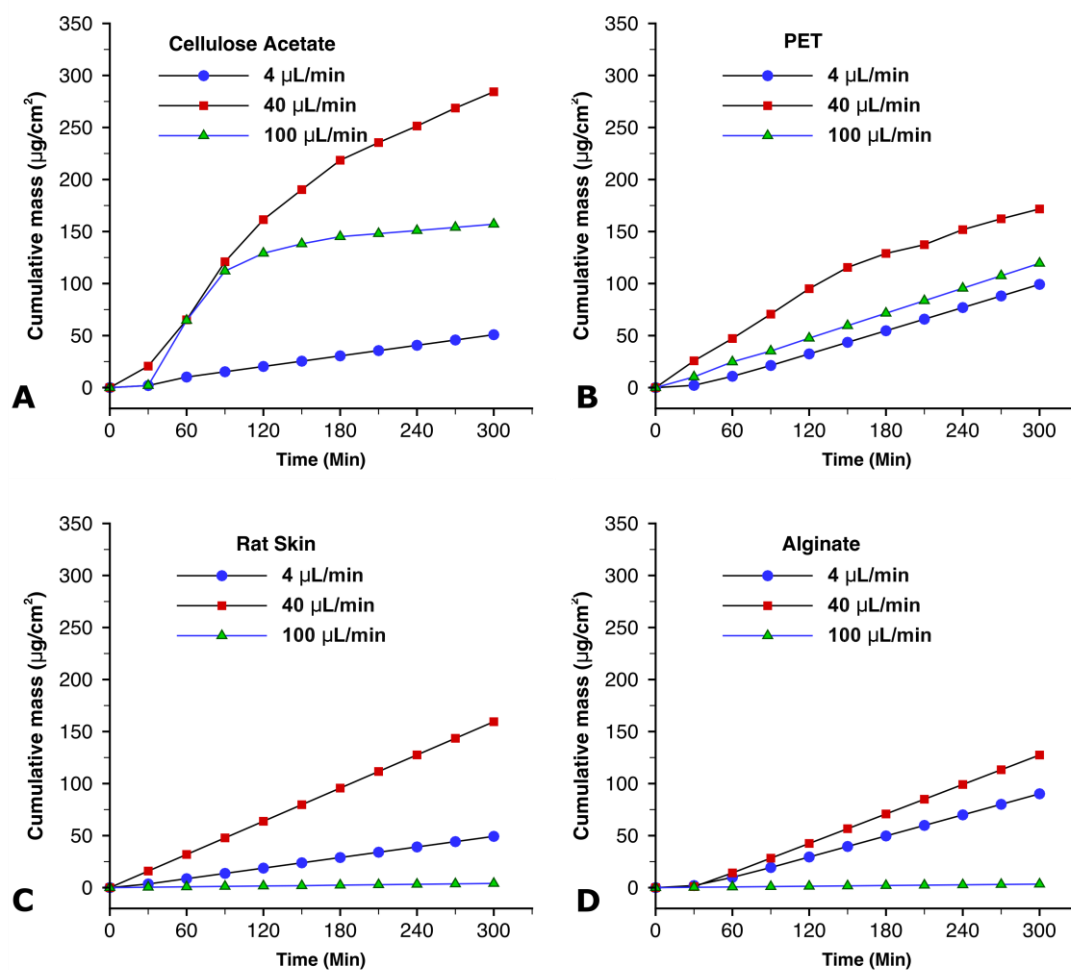


Figure S1. Simulation data of the variation of cumulative mass with time for (A) Cellulose Acetate, (B) PET, (C) Rat Skin, (D) Alginate at flow rates 4µl/min, 40 µl/min and 100 µl/min.

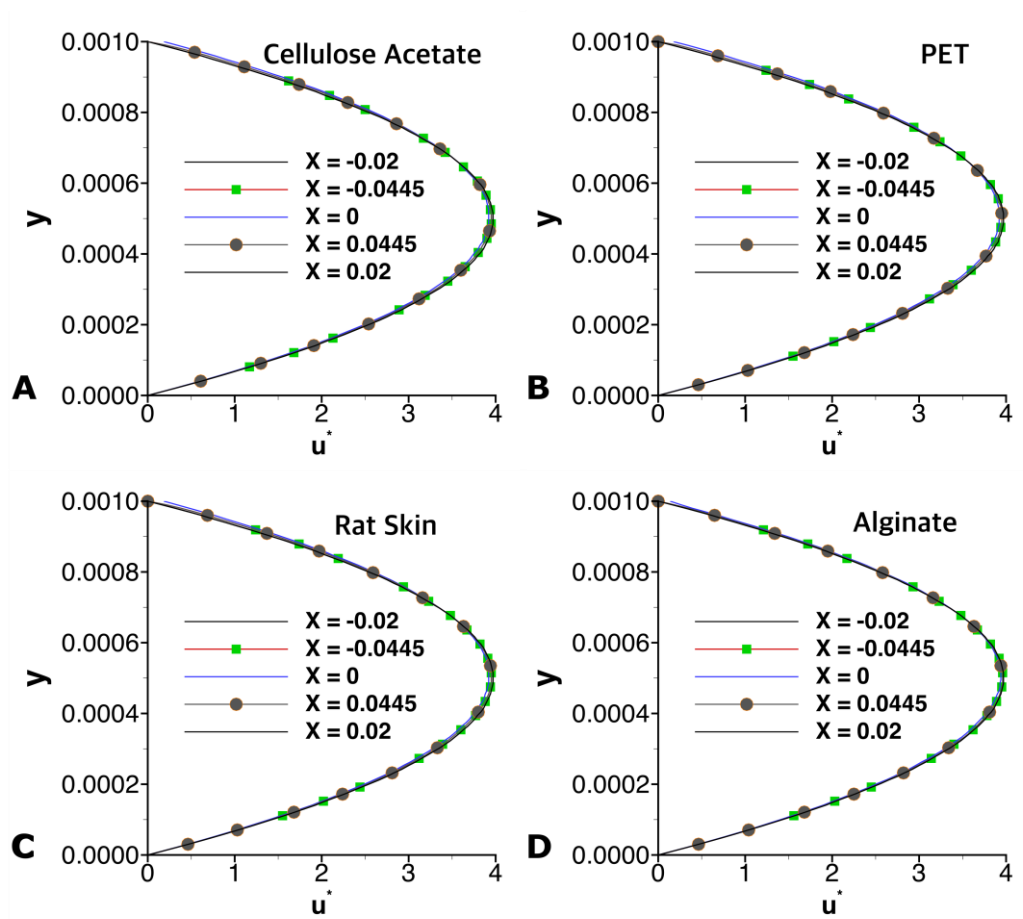


Figure S2. Velocity profiles along the height of the channel at different locations below the membranes for (A) PET, (B) rat skin, (C) alginate, (D) cellulose acetate at a flow rate of 4 $\mu\text{l}/\text{min}$.