

Abstract Submitted
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Block Copolymer Membranes for Biofuel Purification ALI EVREN OZCAM, NITASH BALSARA, UC Berkeley, EBI TEAM — Purification of biofuels such as ethanol is a matter of considerable concern as they are produced in complex multicomponent fermentation broths. Our objective is to design pervaporation membranes for concentrating ethanol from dilute aqueous mixtures. Polystyrene-*b*-polydimethylsiloxane-*b*-polystyrene block copolymers were synthesized by anionic polymerization. The polydimethylsiloxane domains provide ethanol-transporting pathways, while the polystyrene domains provide structural integrity for the membrane. The morphology of the membranes is governed by the composition of the block copolymer while the size of the domains is governed by the molecular weight of the block copolymer. Pervaporation data as a function of these two parameters will be presented.

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