Effect of blend ratio and coagulation bath temperature on the morphology, tensile strength and performance of cellulose acetate/poly(butylene succinate) membranes

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\textbf{ABSTRACT}

In the present study, blend membranes of cellulose acetate (CA)/poly(butylene succinate) (PBS) were prepared. The membrane morphology, tensile strength and performance in bread wastewater treatment were evaluated in terms of the membrane preparation conditions. According to the results, presence of PBS varied the membrane structure by reducing the extension of macro pores in the membrane sublayer. CA could effectively improve tensile strength of the membranes. Reducing coagulation bath temperature resulted in obtaining the membranes with denser structure and also higher tensile strength. Considering differences in surface and cross-sectional structures, the membranes with PBS content of 85 and 100\% were found to have the highest separation ability, whereas the highest flux belonged to the membrane with 50\% PBS.

\textit{Keywords:} Membrane; Blend ratio; Morphology; Wastewater treatment

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