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Performance study of isoporous membranes with tailored pore sizes

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#### **ACCEPTED MANUSCRIPT**

### Performance study of isoporous membranes with tailored pore sizes

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#### Abstract

This performance study deals with isoporous ultrafiltration membranes made through a combination of self-assembly of amphiphilic block copolymers and the non-solvent induced phase separation process (SNIPS). Ten different polystyrene-*b*-poly(4-vinylpyridine) (PS-*b*-P4VP) diblock copolymers were used to prepare membranes with pore sizes increasing with the molecular weight of the polymers. The pore diameters of the membranes vary from 17 to 86 nm. Pure water permeances were studied with respect to pore sizes, P4VP content,

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