

Pore-filled Membranes Capable of Selective Negative Rejections

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Abstract :

Pore-filled cation-exchange membranes containing poly(styrene-sulfonic acid) have been evaluated in pressure-driven separation of inorganic salts. The membranes are capable of separating single and mixed solutes at low pressures (low fluxes). The separation performance is affected significantly by salt concentration and concentration ratio of mixed salts. The observation of negative separation of counterions particularly at low operating pressures is unique. This type of separation may allow the selective removal of multivalent counterions and their replacement by monovalent counterions. [Nature and Science 2003;1(1):21-26].

Key Word :

pore-filled membranes; pore-filling; ion-exchange; polyelectrolyte; negative rejection; nanofiltration

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