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(54) Title: SULFONATED POLY(ARYLENE ETHER) MEMBRANES WITH HIGH MONOVALENT SALT REJECTION EVEN IN THE PRESENCE OF MIXED SALT FEEDS THAT CONTAIN MULTIVALENT SALTS

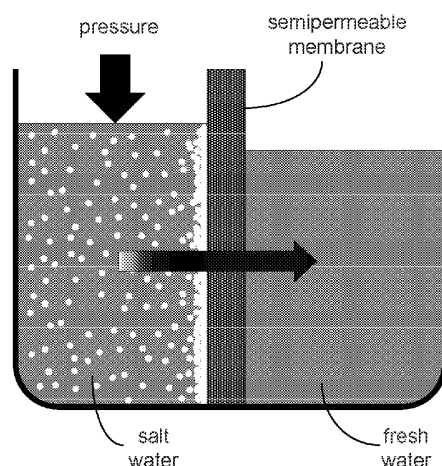


FIG. 3

(57) Abstract: Described herein are water desalination membranes and methods of desalinating water. Sulfonated poly(arylene ether) polymers are also disclosed, including those comprising one or more sulfonate groups at various points along the polymer chain. The polymers may be used as at least a portion of a water desalination membrane. The polymers described herein are useful for preventing transport of aqueous ionic species (e.g., Na⁺ and Cl⁻) across a membrane made from the polymers while allowing water to pass. Chlorine-stable polymers are described, as well as polymers exhibiting good performance for rejecting monovalent cations in the presence of polyvalent cations.

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