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Asymmetrically porous anion exchange membranes with an ultrathin selective layer for rapid acid recovery

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Abstract

Diffusion dialysis for acid recovery from acidic waste solution suffers from the low process capacity due to low proton permeability of current dense anion exchange membranes. In this work, asymmetrically porous ultrafiltration membranes with a thin skin layer (e.g., <1 micrometer) were converted to diffusion dialysis membranes with a hierarchically porous