

A Paradigm Shift in Desalination Membrane Technology

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A sulfonated polysulfone polymer and assemble multilayered membranes using this polymer from aqueous solutions was successfully synthesised for the first time. This was a significant breakthrough, as often organic solutions are used for deposition, which are unsuitable for many commercial substrates. The polymer was utilised to generate a negatively charged, dense membrane via imine formation, using glutaraldehyde crosslinking. This resulted in a chlorine-resistant membrane with high monovalent salt rejection. This system represents a vital platform for future membrane fabrication, given its versatility in loading a range of anionic species whilst retaining a dense membrane structure.