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A Novel Sulfonated Reverse Osmosis Membrane for Seawater Desalination: Experimental and Molecular Dynamics Studies

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ABSTRACT

A new sulfonated diamine monomer, 4,4'-((1,4-phenylenebis(methylene))bis(azanediyl))dibenzenesulfonic acid (PMABSA) was synthesized and used as the sole aqueous reactant to fabricate a novel reverse osmosis (RO) membrane with trimesoyl chloride (TMC), in place of conventional *m*-phenylene diamine (MPD). The separation performance of the PMABSA/TMC membrane was optimized by the response surface method (RSM) by means of