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Triple antifouling strategies for reverse osmosis membrane biofouling control

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Equation Chapter 1 Section 1 **Triple antifouling strategies for reverse osmosis**

**membrane biofouling control**

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**Abstract**

Triple antifouling strategies with fouling release, fouling resistance and contact killing attributes have been utilized for the control of reverse osmosis membrane biofouling.

The membrane surface modification procedure is simple and time-efficient. After the interfacial polymerization process, the membrane was rinsed by n-hexane with addition of 2,2,3,4,4,4-hexafluorobutyl methacrylate (HFBM), then exposed to UV irradiation for 20 s, and finally immersed into a tobramycin (TOB) aqueous solution for 30 s. The resultant membrane maintains the high permselectivity of the virgin membrane. Because of the synergistic effects of low-surface-energy brushes (fouling release) and hydrophilic TOB segments (fouling resistance) on the modified membrane surface, the membrane demonstrates superior antifouling property. Further,

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