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Breathable and asymmetrically superwetable Janus membrane
with robust oil-fouling resistance for durable membrane
distillation

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ABSTRACT

A highly breathable membrane integrating an asymmetrically superwetable Janus skin and a hydrophobic nanofibrous membrane (NFM) was developed via sequential electrospinning and electrospaying for application in membrane distillation (MD). The electrospayed asymmetrically superwetable Janus skin composed of lotus-leaf-like nano/microstructured nanofilaments exhibited an intriguing underwater superoleophobicity of 164° and an in-air superhydrophobicity of 166° , thereby

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