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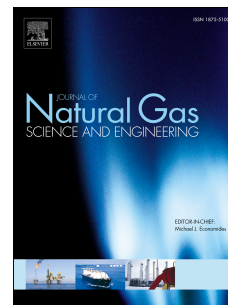
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Status and improvement of dual-layer hollow fiber membranes via co-extrusion process for gas separation: A review

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Abstract

Carbon dioxide (CO₂) is the main culprit of greenhouse gases produced mainly via the combustion of fossil fuel. This paper reviewed the performance of emerging dual-layer hollow fiber membrane, its fabrication via co-extrusion process, improvement, challenges, spinning parameters, advantages and disadvantages in comparison to single-layer hollow fiber membrane for natural gas purification. Development of delamination-free dual-layer hollow fibers via co-extrusion and phase inversion technology is one of the potential solutions for the use of expensive and brittle polymers for the outer selective layer and low cost polymers with high thermal and mechanical properties for the porous inner layer.

Keywords: CO₂ capture; Dual-layer hollow fiber membrane; Co-extrusion; Delamination; Spinning parameters.

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