

Preparation of Bacterial Cellulose Membranes from Nata de Coco for CO₂/CH₄ Separation

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Abstract : Carbon dioxide removal from natural gas is an important process because the existence of carbon dioxide in natural gas contributes to pipeline corrosion, reduces the heating value, and takes up volume in the pipeline. In this study, bacterial cellulose was chosen for the CO₂/CH₄ gas separation membrane due to its unique structure and prominent properties. Additionally, it can simply be obtained by culturing the bacteria so called "Acetobacter xylinum" through fermentation of coconut juice. Bacterial cellulose membranes with and without silver ions were prepared and studied for the separation performance of CO₂ and CH₄.

Keywords : bacterial cellulose, CO₂, CH₄ separation, membrane, nata de coco

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