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Authors: Javad Aminian Dehkordi, Seyed Saeid Hosseini, Prodip K. Kundu

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# Insights into the Significance of Membrane Structure and Concentration Polarization on the Performance of Gas Separation Membrane Permeators: Mathematical Modeling Approach

Javad Aminian Dehkordi<sup>a</sup>, Seyed Saeid Hosseini<sup>a\*</sup>, Prodip K. Kundu<sup>b</sup>

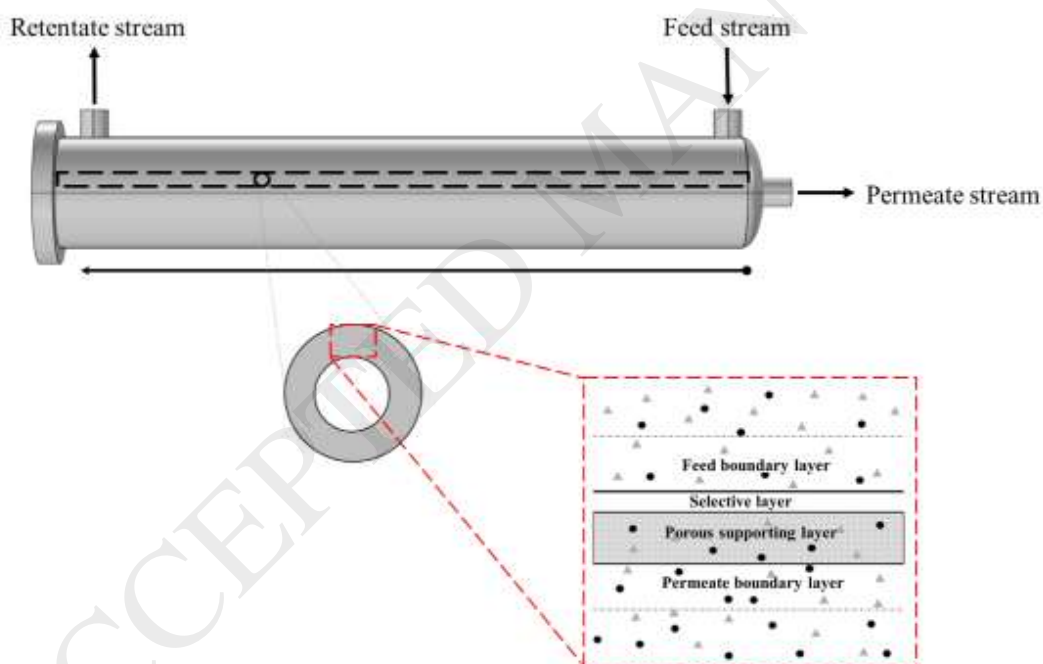
<sup>a</sup> Department of Chemical Engineering, Tarbiat Modares University  
Tehran, Iran 14115-114

<sup>b</sup> OLI Systems Inc., 240 Cedar Knolls Road, Suite 301 Cedar Knolls  
NJ 07927-1621 USA

\*Corresponding author: S.S. Hosseini; Tel.: +98 21 82883335, Fax: +98 21 8288 4931.

*E-mail address:* (saeid.hosseini@modares.ac.ir).

## Graphical abstract



## Highlights

- Mathematical modeling is used for performance analysis in membrane permeators
- Non-ideal conditions related to hollow fiber membrane structure are considered
- There is a good agreement between simulation results and experimental data
- Porous layer provides the most resistance against transport of gas molecules

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