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BOOK OF ABSTRACTS

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ENANTIOSELECTIVE PERMEATION OF RACEMIC ALCOHOL THROUGH CHIRAL POLYMERIC MEMBRANES

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ABSTRACT

We have prepared enantioselective membrane from copolymer of 1,2-bis(2-methyl-1-triethylsiloxy-1-propenyloxy)ethane and dialdehyde. The membrane forming ability of this chiral polymer was tested by casting the membrane in N-methyl-2-pyrilidone (NMP) using diffusion phase inversion process. The enantioselective membranes were tested for resolution of Trans-sobrerol by pressure driven permeation process. The highest enantioselectivity, enantiomeric excess and permeation rate was obtained as 95.59%, 30.21 and $7.72 \times 10^{-4} \text{ m}^2\text{h}^{-1}$ respectively. With an increase in polymer content in the membrane, the permeation rate increases. It was also found that the enantioselectivity for adsorption favoured the (-)-isomer and that for permeation favoured the (+)-isomer, and hence enantioselective permeation was caused by suppression of the (-)-isomer permeation.

Keywords: Enantioselective membrane, N-methyl-2-pyrilidone, Trans-sobrerol, enantioselectivity, enantiomeric excess