

## Preparation of DOCDA-based polyimide membranes and their gas separation properties

박채영<sup>1,2</sup>, 장봉준<sup>1</sup>, 김정훈<sup>1,†</sup>

<sup>1</sup>한국화학연구원; <sup>2</sup>한양대학교

(jhoonkim@kriect.re.kr<sup>†</sup>)

Polyimide is one of the promising membrane materials for gas separation owing to their outstanding thermal, mechanical and chemical stability. However, their applications were limited in many fields because of their low solubility and processibility. In this study, we synthesized the solution processible DOCDA-ODA polyimides membrane. To enhance the separation performance, we also synthesized copolyimides based on DOCDA-ODA with various dianhydrides. All the synthesized polyimides were characterized by NMR, FT-IR, DSC and TGA. Finally their gas permeation properties for N<sub>2</sub>, O<sub>2</sub>, CO<sub>2</sub> and CH<sub>4</sub> were evaluated by a time-lag apparatus.