

### Thin film nanocomposite membrane for seawater desalination using interfacial polymerization method

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_\*

(snoopgo@korea.ac.kr\*)

Sulfonated poly(arylene ether sulfone) containing functional groups (aPES) was synthesized as novel thin-film composite (TFC) reverse osmosis (RO) membrane material. TFC membranes were prepared using an interfacial polymerization (IP) method on a polysulfone (PS) ultrafiltration (UF) support membrane. The synthesized aPES and prepared TFC RO membranes were characterized by NMR and SEM. Moreover, RO performances, salt rejection and water flux, were measured using cross-flow test cell. The chlorine resistance was evaluated using sodium hypochlorite solution. The membrane fabricated with aPES was compared with commercial polyamide (PA) TFC membrane. The aPES RO membrane had much higher chlorine resistance than that of PA RO membrane and showed good RO performances.