

Synthesis and Characterization of PVDF, FG, PTFE, and PES Membrane Distillation Modified with Silver Nanoparticles

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Abstract : The Silver Nanoparticles (AgNP) are used as deliver of heat on surface of Membrane Distillation in order to fight against Thermal Polarization and improving the Desalination Process. In this study AgNP were deposited by dip coating process over PVDF, FG hydrophilic, and PTFE hydrophobic commercial membranes as substrate. Membranes were characterized by SEM, EDS, contact angle, Pore size distribution and using a UV lamp and a thermal camera were measured the performance of heat deliver. The presence of AgNP 50 - 150 nm and the increase in absorption of energy over membrane were verified.

Keywords : silver nanoparticles, membrane distillation, plasmon effect, heat deliver

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