

Comparing RO and NF membranes for understanding their different phenomena

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Reverse osmosis(RO) and Nanofiltration(NF) are widely used technologies for water purification. There have been numerous researches to enhance their efficiency and for application to different uses. By applying high pressure to a semi-permeable membrane, water and salt are effectively separated. The processes of both membranes seem similar, but since NF membranes have larger pores compared to RO membranes, they give higher water flux while rejecting multivalent ions effectively. We have tested the membranes with various salts(sodium chloride, disodium phosphate, sodium sulfate). Through comparing the water flux and salt flux of both membranes with monovalent and multivalent ions, we could understand the different phenomena occurring on the different membranes.