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Abstract	:	This study investigated how the addition of hydrophilic TiO2 to a porous asymmetric polyvinylidene fluoride (PVDF) Ultrafiltration (UF) membrane altered its properties and performance. The hydrophilicity and flux of PVDF and polyvinylpyrrolidone (PVP) combinations will be lower, and TiO2 will significantly impact raising those values. By mixing titanium dioxide (TiO2) nanoparticles with a pore-forming agent in a dope solution, PVDF-TiO2-PVP membranes were prepared via non-solvent-induced phase inversion method. Experiments using PVDF membranes with varying concentrations of TiO2 (0, 0.25, 0.5, 1, 1.5, and 2% wt) were applied to evaluate pure water flux and Bovine Serum Albumin (BSA) flux. The functional group composition of membranes was investigated by Fourier transform infrared spectroscopy. The wettability of porous membranes was determined by measuring contact angles. Results demonstrated that membranes constructed from PVDF/PVP/TiO2 with a lower loading of TiO2 nanoparticles had a smaller mean pore size, more apertures inside the membrane, and better membrane hydrophilicity. The highest flux of pure water (121 L/m2h) was achieved by the PVDF-TiO2-PVP mixed-matrix membrane at a TiO2 concentration of 2 wt%.