OP-C-310

Wednsday, May 11, 2011, 05:00-05:20 pm
Room: Fez 2

POLY(N-2-VINYLPIRROLIDONE) (PVP) POLY(VINYLALCOHOL)(PVAL)/LAPONITE RD HYDROGELS NANOCOMPOSITE MEMBRANES

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In the last years, the insertion of nano-clays into hydrogels is an efficient approach to produce nanocomposite hydrogels. The introduction of nano-clay into hydrogels causes an increase in water absorbency producing nanocomposite hydrogels with enhanced properties could have incredible biomedical applications. In the present work, Nanocomposite hydrogels based on Poly(N-2-Vinylpirrolydone)(PVP)/ Poly(vinylalcohol)(PVAl) were synthesized using laponite RD as nano-clay. (N-2-Vinylpirrolydone)(PVP)/ Poly(vinylalcohol)(PVAl) and gamma radiation (25 kGy) were used as polymer matrices and physical crosslinker, respectively. Swelling behavior of nanocomposite hydrogels was studied by varying clay concentration. The structure of nanocomposite hydrogels was investigated by X-Ray diffraction (XRD), Scanning Electron Microscopy (SEM) and Thermogravimetric Analysis (TGA) techniques. A great swelling capacity was achieved in nanocomposite PVP/PVAl/laponite. The swollen nanocomposite hydrogels were used to study water retention capacity (WRC).