

Gas Barrier Properties of PVA/SWCNT/GO Nanocomposites

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In this work, we studied on the gas barrier properties and light transmittance of poly(vinyl alcohol)/graphite oxide(GO)/single-wall carbon nanotube(SWCNT) nanocomposites. The nanocomposites were prepared by solution mixing methods. Light transmittance of nanocomposites was measured with UV-vis at 550nm. Gas permeability of nanocomposite films was measured by using Illinois Instrument Model 8001. Thermal properties of the nanocomposites were measured with DSC at a heating rate of 10°C/min. XRD experiments were performed directly on the hybrid samples with Cu irradiation at the scanning rate of 0.02/s in the 2 range of 2-40. Morphology of nanocomposites was characterized by using scanning electron microscopy.