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CNT/ABS Nanocomposites by Solution Processing: Proper Dispersion and Selective Localization for Low Percolation Threshold

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Abstract: A nanocomposite of well dispersed carbon nanotube (CNT) in acrylonitrile?butadiene? styrene (ABS) matrix was prepared by solution processing. CNT dispersibility in four different solvents was studied experimentally and theoretically and the best solvent was selected to prepare the nanocomposite. The nanocomposite morphology was examined by transmission electron microscopy and optical microscopy to determine the nanotube level of dispersion and the location of CNT in the ABS matrix. Solubility parameter concept was ...