

The Incorporation of Fluorescent Dye in Mesoporous Core-Shell Silica

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Mesoporous silica core-shell nanoparticles were prepared using Sol-gel process. Monodisperse core silica has been prepared via sol-gel reaction of TEOS (tetraethoxysilane) and water using base catalyst. Silica cores with size 220 - 340 nm were obtained. After calcination, the pore volume and surface area of the silica increased. Fluorescent dye (FTIC) was incorporated into the silica network by using coupling agent. Both UV/Vis and PL spectra show red-shift by silica incorporation. Fluorescent decay time was delayed by silica incorporation.