DISTINCTIVE OPTICAL PROPERTIES OF POLYSILANE/TiO_2 NANOCOMPOSITE FILMS

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S u m m a r y

Optimal technological conditions for the fabrication of nanocomposite films based on the poly(di-*n*-hexylsilane) (PDHS) incorporated into a TiO_2 nanoporous film have been developed, and such composites are fabricated. Their optical spectra have been investigated in a wide temperature range (15–330) K. It is shown that the distinctive feature of nanocomposite films is related to the predominant fluorescence band of aggregates with respect to the fluorescence bands corresponding to the gauche- and trans-conformations of polymer chains and to the observation of the intense fluorescence band of aggregates even at room temperature.