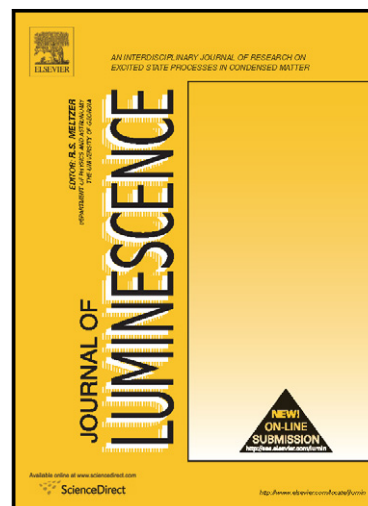


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# Reversible photoluminescence in spiropyran-modified porous silicon

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## Abstract

Spiropyran-modified porous silicon (spiro-PS) was used for the first time as an organic-inorganic hybrid material by using reversible photoluminescence (PL). Before spiropyran modification, the peak wavelength from PS was approximately 600 nm. Subsequent spiropyran modification strongly quenched the PL intensity, from 15000 to 2000 counts. However, under UV light irradiation, the PL intensity from spiro-PS was increased gradually to 20000 counts because of the photoinduced ring opening from a colorless spiropyran (SP-form) to a colored merocyanine (MC-form). Furthermore, the resulting peak wavelength of the PL of an MC-PS sample

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