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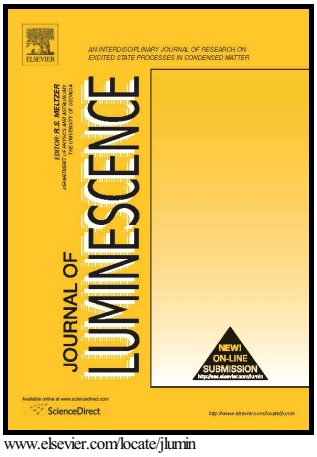

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A novel xanthene-based colorimetric and fluorescence probe for detection of H_2S in living cells

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Abstract

Hydrogen sulfide (H_2S) is a signaling gasotransmitter that plays an important role in modulating the functions of different systems. We have reported a xanthene-based colorimetric and fluorescence **Probe A** for the selective detection of H_2S over other sulfide-containing analytes. The emission intensity increases linearly with NaSH concentrations in the low concentration range suggested that it shows high sensitivity toward H_2S with a detection limit as low as 7 nM. This probe exhibits an enhanced up to 250-fold fluorescence enhancement at λ_{em} 510 nm in the presence of H_2S (50 μM). In addition, **Probe A** can be applied for fluorescent imaging of H_2S in living cells, providing a potentially powerful molecular imaging tool for imaging H_2S.