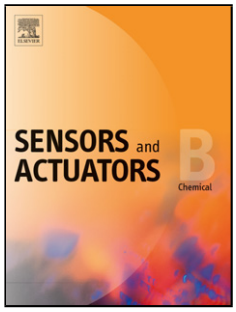

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Oxazole-based high resolution ratiometric fluorescent probes for hydrogen peroxide detection

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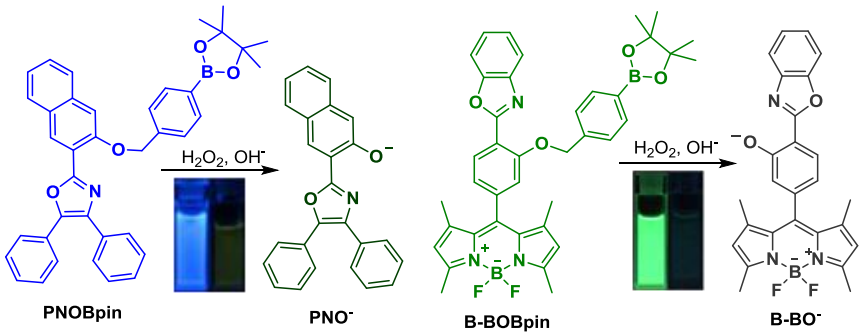
Graphical Abstract



Research Highlights

- Two novel fluorescent probes, PNOBpin and B-BOBpin, were synthesized and characterized for their applications for rapid detection of H_2O_2. In the presence of base, the probes provide remarkable changes in optical properties with extremely fast response towards H_2O_2 based on the cleavage of C-O bond and the principle of excited state intramolecular proton transfer (ESIPT) or photo-induced electron transfer (PET). B-BOBpin is the first example of BODIPY derivative applied for H_2O_2 detection.

Abstract: Hydrogen peroxide (H_2O_2) has been associated as the most important member of reactive oxygen species (ROS) for a long time. Two novel fluorescent probes (**P1** and **P2**) are synthesized and characterized for rapid detection of H_2O_2. In the presence of base, the probes provide remarkable changes in optical properties with extremely fast response towards H_2O_2 based on the cleavage of C-O bond and the principle of excited state intramolecular proton transfer (ESIPT) or photo-induced electron transfer (PET).