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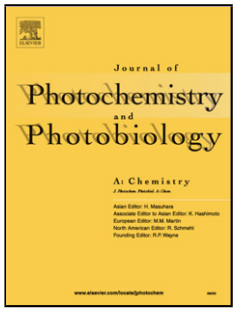

Title: A naphthalimide–rhodamine chemodosimeter for hypochlorite based on TBET: high quantum yield and endogeous imaging in living cells

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A naphthalimide–rhodamine chemodosimeter for hypochlorite based on TBET: high quantum yield and endogeous imaging in living cells

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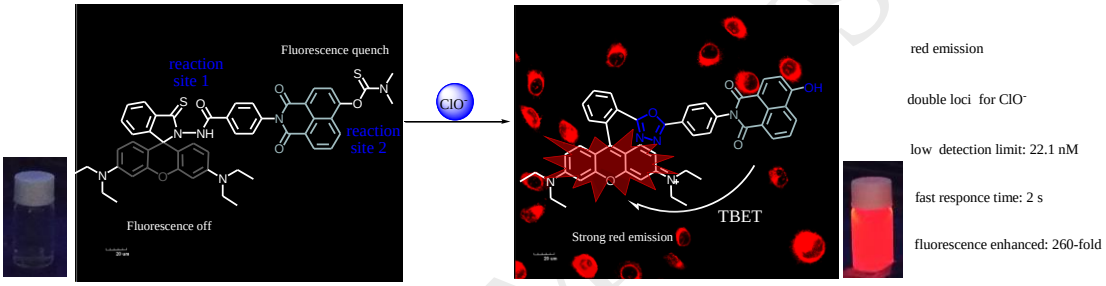
Graphical absttract

In this article, a naphthalimide-rhodamine fluorescent turn-on probe RHSNO with red emission for hypochlorous acid based on dual reaction linkage induce through-bond energy transfer (TBET) system was designed and synthesized, and had been applied to the detection of endogenous and exogenous ClO^-.



Highlights:

- A naphthalimide-rhodamine fluorescent turn-on probe RHSNO with red emission for hypochlorous acid based on dual reaction linkage induce through-bond energy transfer (TBET) system was designed and synthesized
- ClO^--triggered intramolecular desulfurization cyclization of rhodamine-thiohydrazide, an obvious increase of rhodamine emission at 590 nm and enhanced up to 260-fold.
- The efficiency of energy transfer was calculated to be 86 %, and the quantum yield of rhodamine moiety is 0.64