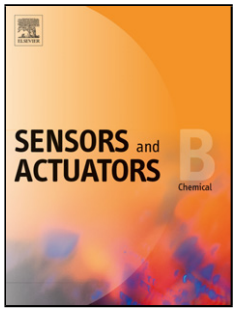

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A colorimetric and fluorescent probe for rapid detection of glutathione and its application to tissue specific bio-imaging in living cells and zebrafish

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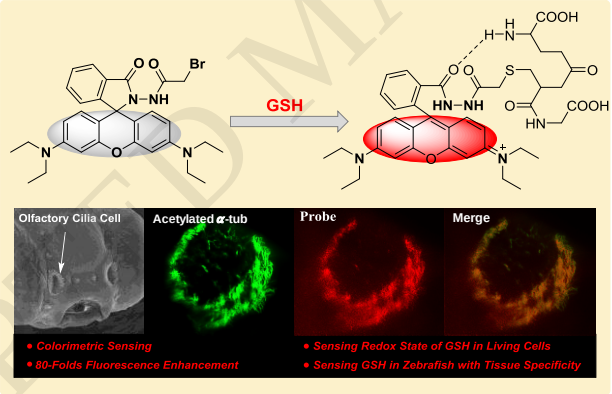
Graphical abstract:



Highlights:

- A rhodamine-based fluorescence probe for sensing glutathione was developed.
- Up to an 80-fold enhancement in the intensity of fluorescence and a color change from colorless to pink were achieved upon the addition of glutathione.
- The probe can be utilized to sense endogenous and exogenous glutathione in HeLa cells.
- The probe can be utilized to interrogate the oxidation states of glutathione.
- The probe can be utilized to detect glutathione in zebrafish with a high specificity for olfactory pit tissue.