Electronic Supplementary Information (ESI)

for

A Novel Colorimetric and Near-infrared Fluorescent Probe for Hydrogen Peroxide Imaging in Vitro and in Vivo

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**Fig. S1** Absorption spectra of probe DCM-B1 (5 μM) before (red line) and after reacting with H₂O₂ (100 μM, blue line).

**Fig. S2** Emission spectra of probe DCM-B1 in the presence of different equivalents of H₂O₂ (0, 0.5, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 15.0, 20.0 eq, 30 min) excited at 560 nm.

**Fig. S3** A linear correlation between emission intensities and concentrations of H₂O₂.
**Fig. S4** Fluorescence intensity of 5 μM DCM-B1 to the testing species in PBS buffer solution (20 mM, 50% DMSO, pH 7.4) at 700 nm excited at 560 nm. Bars represent fluorescence intensity during 0, 10, 30 and 60 min after addition of various compounds excited at 560 nm.

**Fig. S5** Cytotoxicity of DCM-B2 probe. Cell viability of MCF-7 cells incubated with different concentration DCM-B2 probe.
Fig. S6 $^1$H NMR spectrum of compound DCM-OH

Fig. S7 $^{13}$C NMR spectrum of compound DCM-OH
Fig. S8 $^1$H NMR spectrum of compound DCM-B1

Fig. S9 $^{13}$C NMR spectrum of compound DCM-B1
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Fig. S11 $^1$H NMR spectrum of compound DCM-B2
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Fig. S13 IR spectrum of compound DCM-B2
Fig. S14 Mass spectrum of compound DCM-OH

Fig. S15 Mass spectrum of the solution of compound DCM-B2 after treated with H2O2