Supplementary Information

A fast-response and highly specific Si-Rhodamine probe for endogenous peroxynitrite detection in living cells†

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1 Supplementary Spectra and chart

**Fig. S1.** Proposed reaction mechanism and HRMS of compound SiMH.

**Fig. S2.** Fluorescence intensity changes of SiNH (5 μM) for ONOO⁻ over various species (100 equiv) in HEPES buffer solution (50 mM, pH=7.4 H₂O:CH₂CN = 7:3) at 595 nm (1) Probe only (5 μM), (2) Cys, (3) NO, (4) HClO, (5) H₂O₂, (6) NaNO₂, (7) GSH, (8) Glu, (9) Pro, (10) ONOO⁻. λ<sub>ex</sub> = 450 nm.

**Fig. S3.** Average size of nanoprobe measured by dynamic light scattering.
Fig. S4. Fluorescence spectra of nanoprobe (5 μM) (λ_ex = 450 nm) in the presence of different amount of ONOO⁻ (0 – 10 μM) in aqueous solution, and the corresponding linear relationship between the fluorescent intensity and ONOO⁻ concentrations. Conditions: HEPES buffers (50 mM, pH = 7.4).

Fig. S5. Fluorescence intensity of micelles in the absence and presence of ONOO⁻ at various pH values (λ_em = 595 nm).

Fig. S6. Percentage of viable Hela cells after treatment with indicated concentrations of micelles after 8 hours.

2. ¹H NMR, ¹³C NMR and HRMS charts.
Figure S7. $^1$H NMR of compound SiX (CDCl$_3$, 400 MHz).

Figure S8. $^{13}$C NMR of compound SiX (CDCl$_3$, 100 MHz).
Figure S9. HRMS of compound SiX.

Figure S10. $^1$H NMR of compound SiCl (CDCl$_3$, 400 MHz).
Figure S11. HRMS of compound SiCl.

Figure S12. $^1$H NMR of compound SiNH (CDCl$_3$, 400 MHz).
Figure S13. $^{13}$C NMR of compound SiNH (CDCl$_3$, 100 MHz).

Figure S14. HRMS of compound SiNH.
**Figure S15.** $^1$H NMR of compound SiMH (CDCl$_3$, 400 MHz).

**Figure S16.** HRMS of compound SiMH.