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

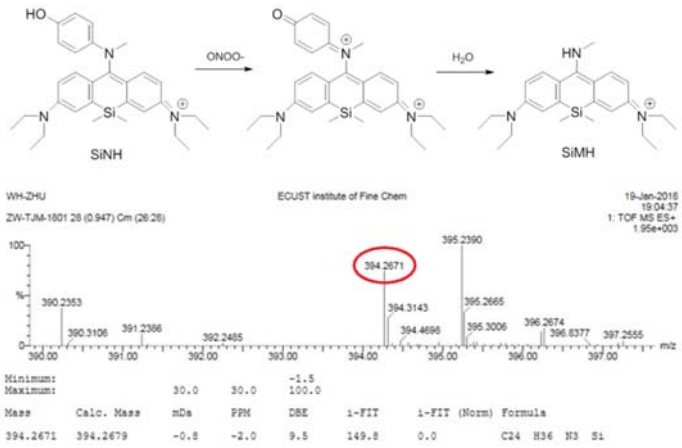

Fig. S1. Proposed reaction mechanism and HRMS of compound SiMH.

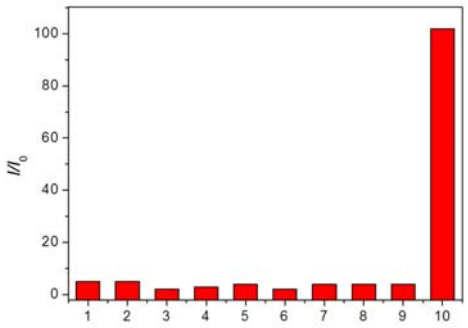

Fig. S2. Fluorescence intensity changes of SiNH (5 μM) for $ONOO^-$ over various species (100 equiv) in HEPES buffer solution (50 mM, pH=7.4 H_2O:CH_3CN = 7:3) at 595 nm (1) Probe only (5 μM), (2) Cys, (3) NO, (4) HClO, (5) H_2O_2, (6) $NaNO_2$, (7) GSH, (8) Glu, (9) Pro, (10) $ONOO^-$. λ_{ex} = 450 nm.

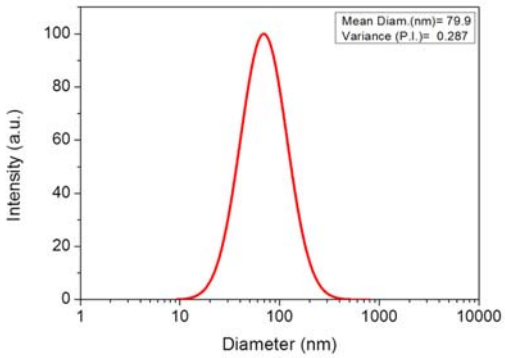

Fig. S3. Average size of nanoprobe measured by dynamic light scattering.

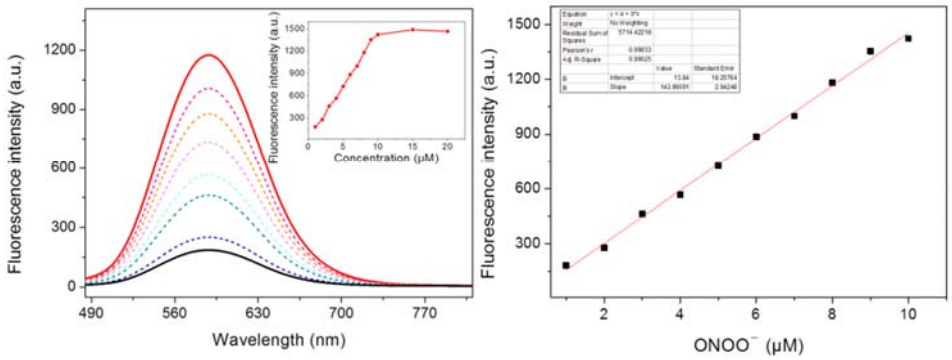

Fig. S4. Fluorescence spectra of nanoprobe (5 μM) (λ_{ex} = 450 nm) in the presence of different amount of $ONOO^-$ (0 – 10 μM) in aqueous solution, and the corresponding linear relationship between the fluorescent intensity and $ONOO^-$ concentrations. Conditions: HEPES buffers (50 mM, pH = 7.4).

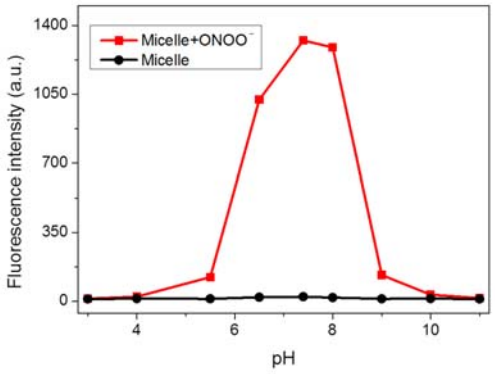

Fig. S5. Fluorescence intensity of micelles in the absence and presence of $ONOO^-$ at various pH values (λ_{em} = 595 nm).

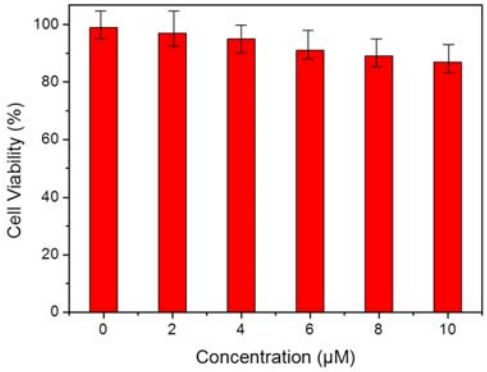

Fig. S6. Percentage of viable Hela cells after treatment with indicated concentrations of micelles after 8 hours.

2 ^{1}H NMR, ^{13}C NMR and HRMS charts.

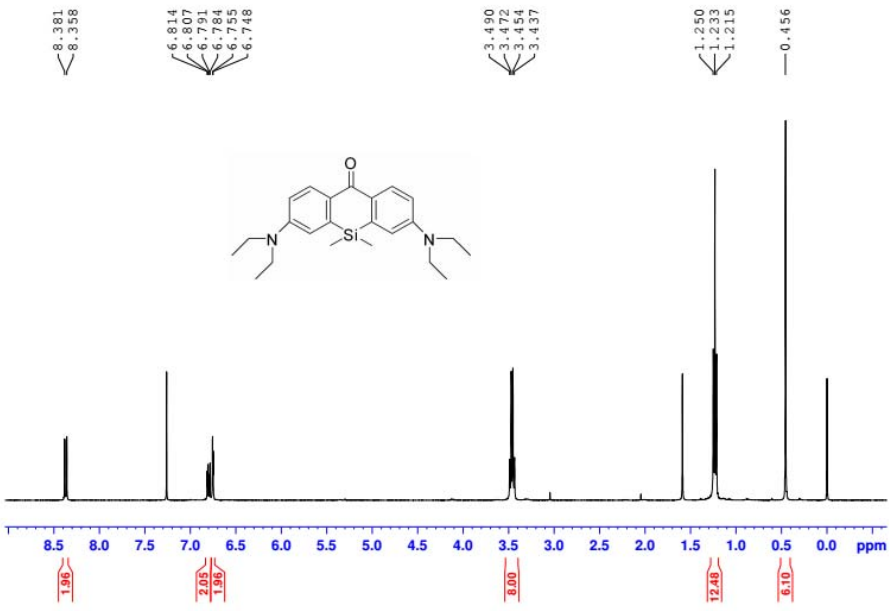

Figure S7. ^{1}H NMR of compound SiX ($CDCl_3$, 400 MHz).

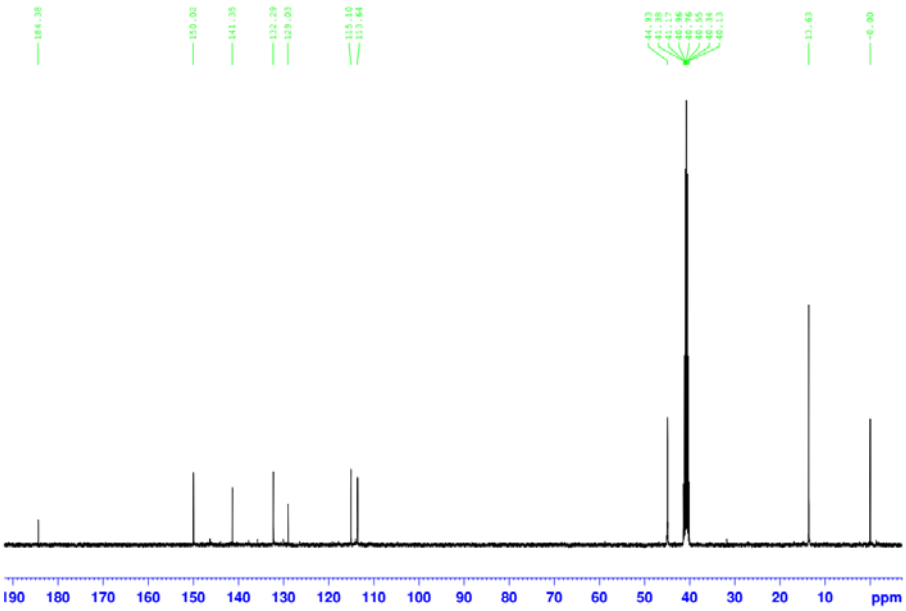

Figure S8. ^{13}C NMR of compound SiX ($CDCl_3$, 100 MHz).

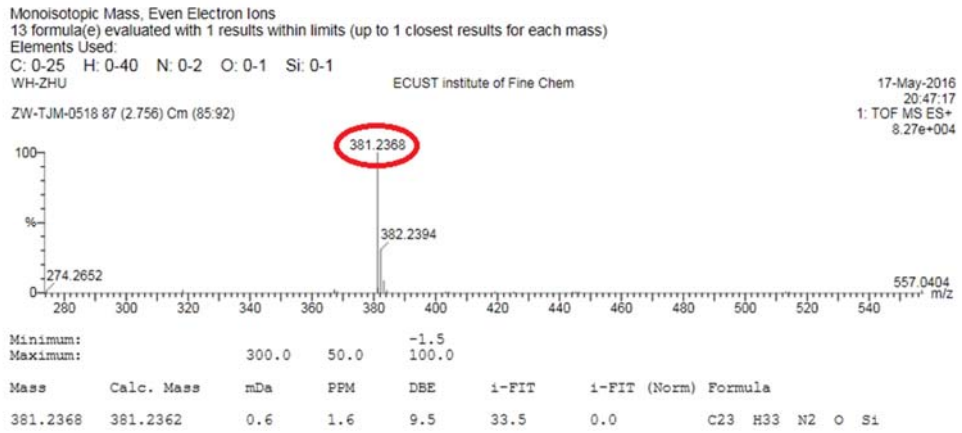

Figure S9. HRMS of compound SiX.

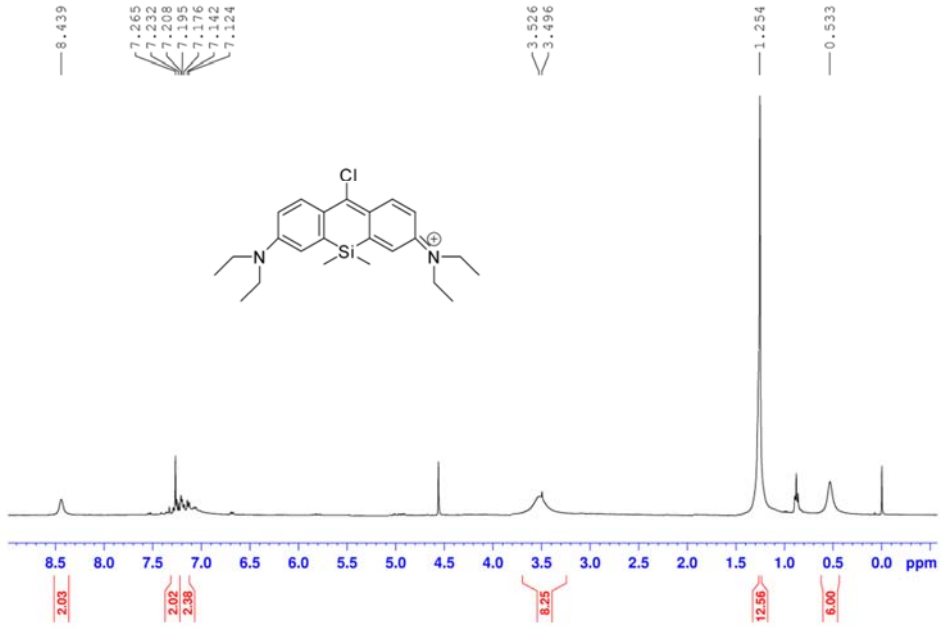

Figure S10. ^{1}H NMR of compound SiCl ($CDCl_3$, 400 MHz).

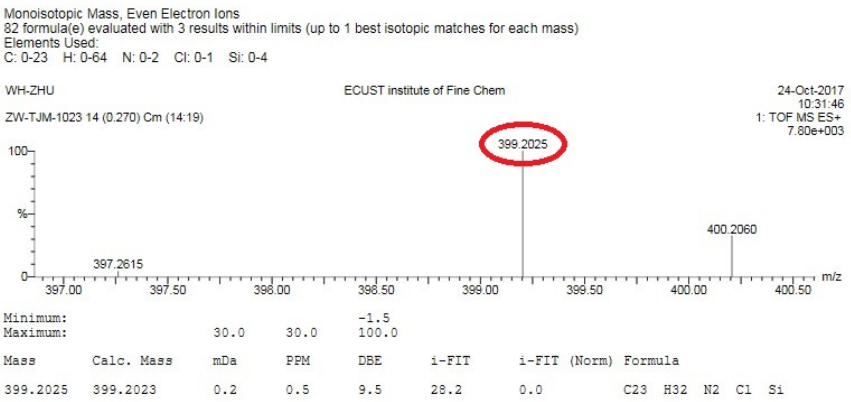

Figure S11. HRMS of compound SiCl.

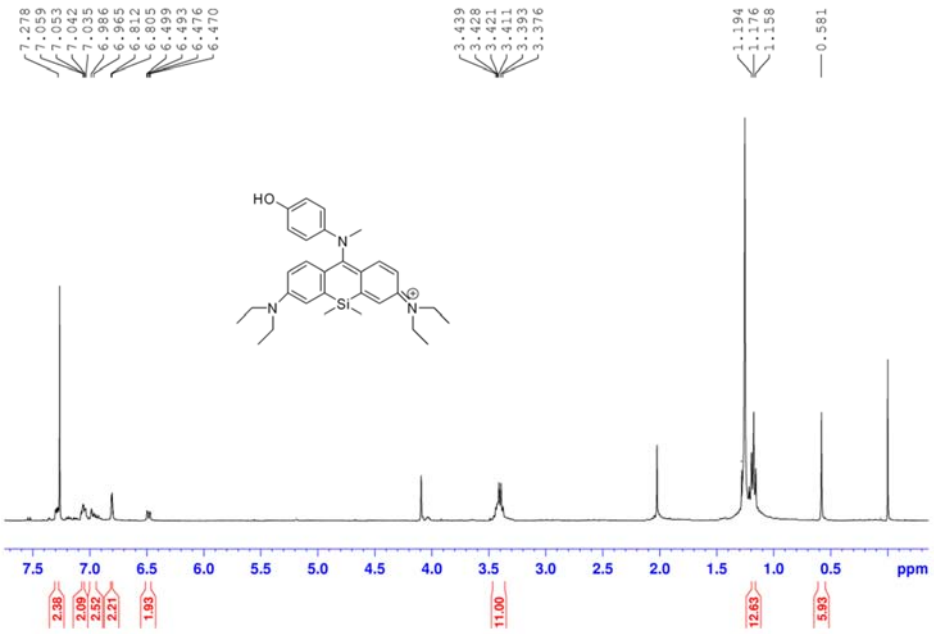

Figure S12. ^{1}H NMR of compound SiNH ($CDCl_3$, 400 MHz).

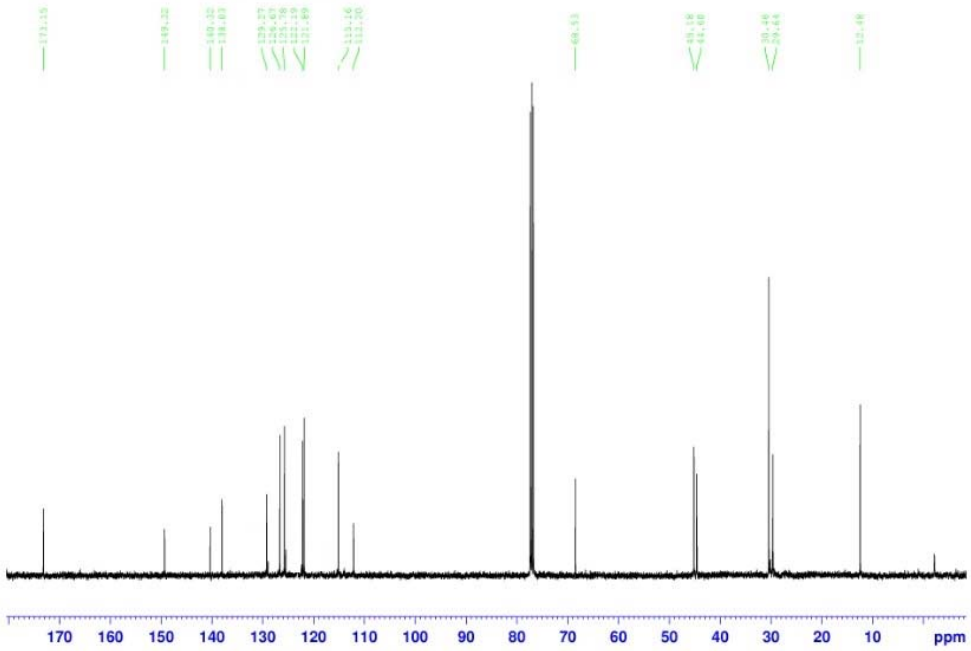

Figure S13. ^{13}C NMR of compound SiNH ($CDCl_3$, 100 MHz).

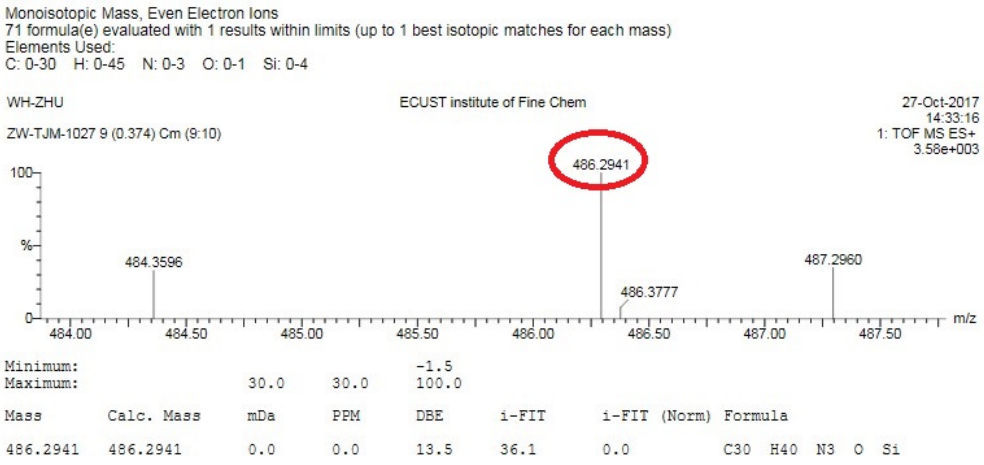

Figure S14. HRMS of compound SiNH.

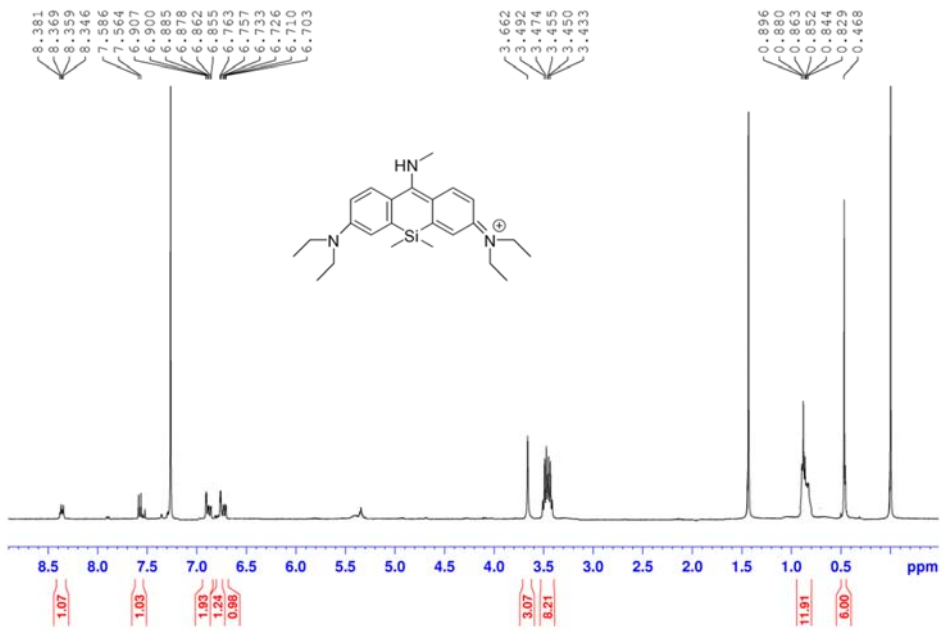

Figure S15. ^{1}H NMR of compound SiMH ($CDCl_3$, 400 MHz).

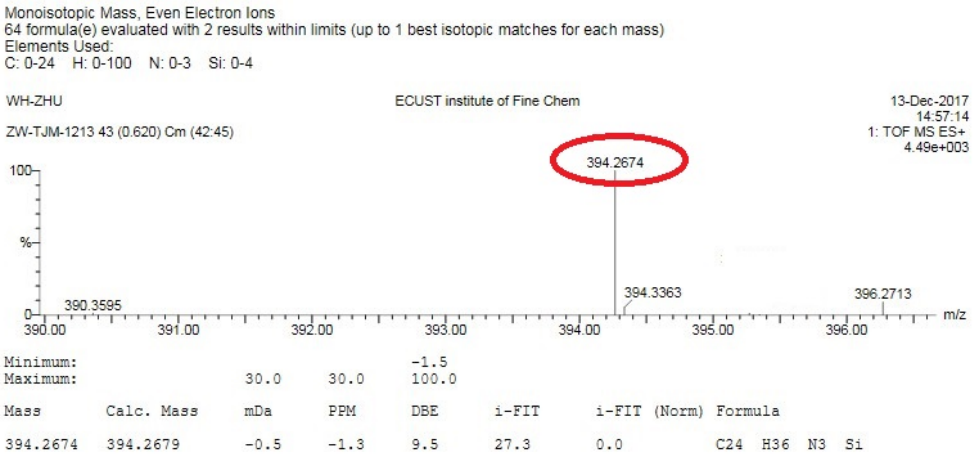

Figure S16. HRMS of compound SiMH.