

**A lysosome-targetable versatile fluorescent probe for imaging
viscosity and peroxynitrite with different fluorescence signals in
living cells**

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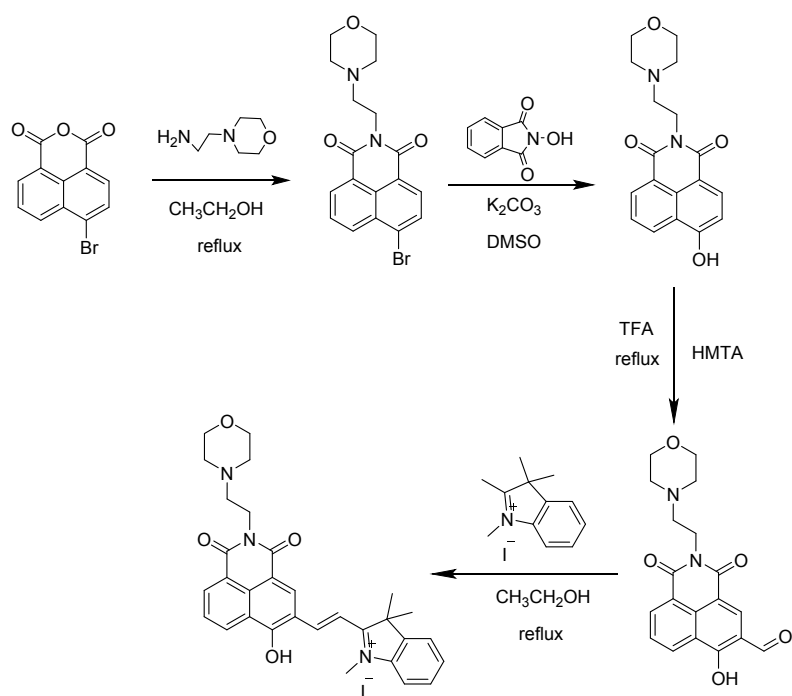
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The synthetic route of Lyso-NA



1. UV-vis absorption spectra of Lyso-NA

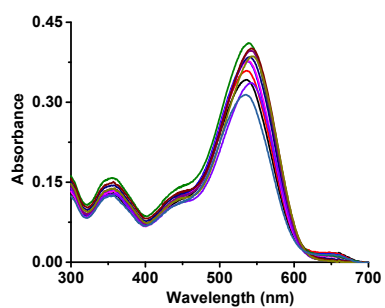


Fig S1. UV-vis absorption spectra of Lyso-NA (5 μM) in different ratio of glycerol-water.

2. The effect of pH

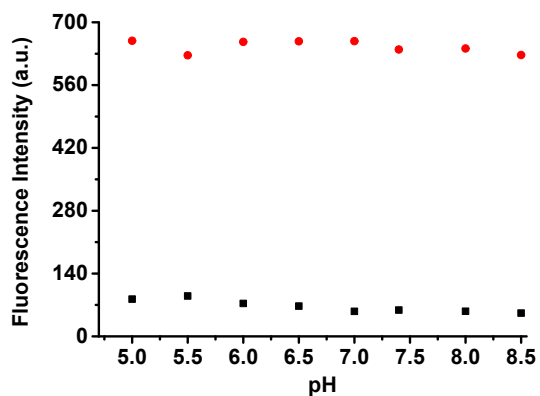


Fig S2. The effect of pH on Lyso-NA in different viscosity

3. The kinetic profile of the recognition of Lyso-NA for ONOO⁻

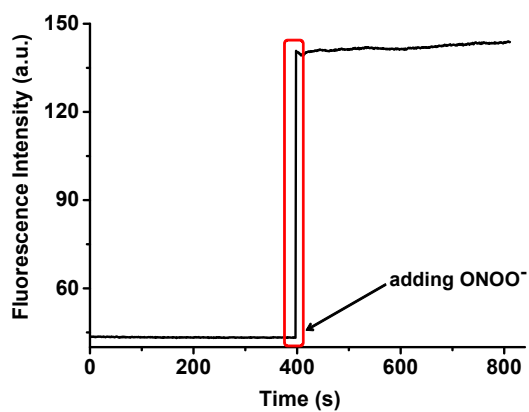


Fig S3. The fluorescence spectra of Lyso-NA (5 μ M) after the addition of ONOO⁻ (150 μ M) in H₂O: Ethanol=5:5 (v/v), pH=5.0, 10 mM CPBS at room temperature. Excitation wavelength = 440 nm, excitation and emission slit widths = 5 nm and 5 nm.

4. The affect of DMSO to HCIO

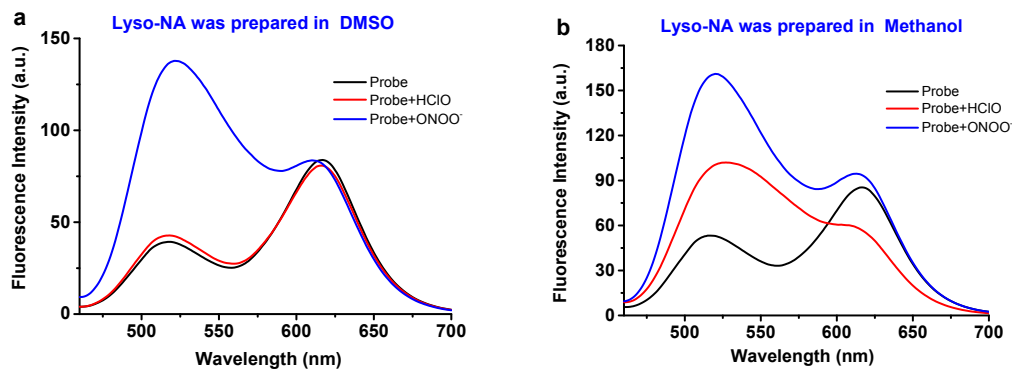


Fig S4. (a) The fluorescence spectra of **Lyso-NA** ($5 \mu\text{M}$) in the presence of **HCIO** ($150 \mu\text{M}$) or **ONOO** ($150 \mu\text{M}$) in H_2O : Ethanol=5:5 (v/v) contained 0.5% DMSO, pH=5.0, 10 mM CPBS at room temperature. (b) The fluorescence spectra of **Lyso-NA** ($5 \mu\text{M}$) in the presence of **HCIO** ($150 \mu\text{M}$) or **ONOO** ($150 \mu\text{M}$) in H_2O : Ethanol=5:5 (v/v) contained 0.5% Methanol, pH=5.0, 10 mM CPBS at room temperature.

5. The two channels of Lyso-NA in the cells

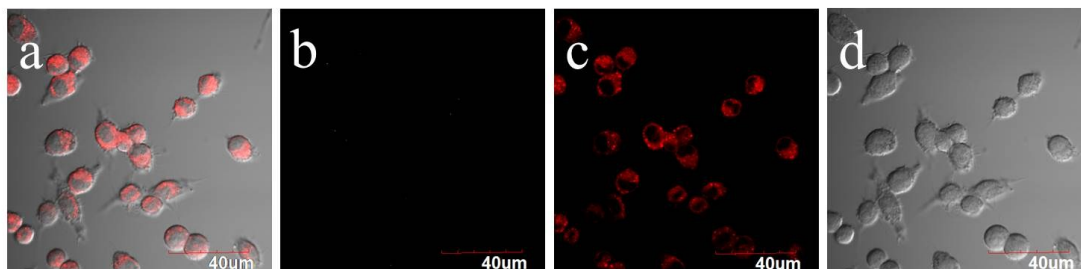


Fig. S5 Confocal fluorescence images of RAW.264.7 cells stained by **Lyso-NA** ($5 \mu\text{M}$). (a) overlay of green and red channels. (b) green channel of **Lyso-NA** (460-540 nm), excited at 404 nm. (c) red channel of **Lyso-NA** (580-670 nm), excited at 543 nm. (d) bright field image.

6. Spectral data

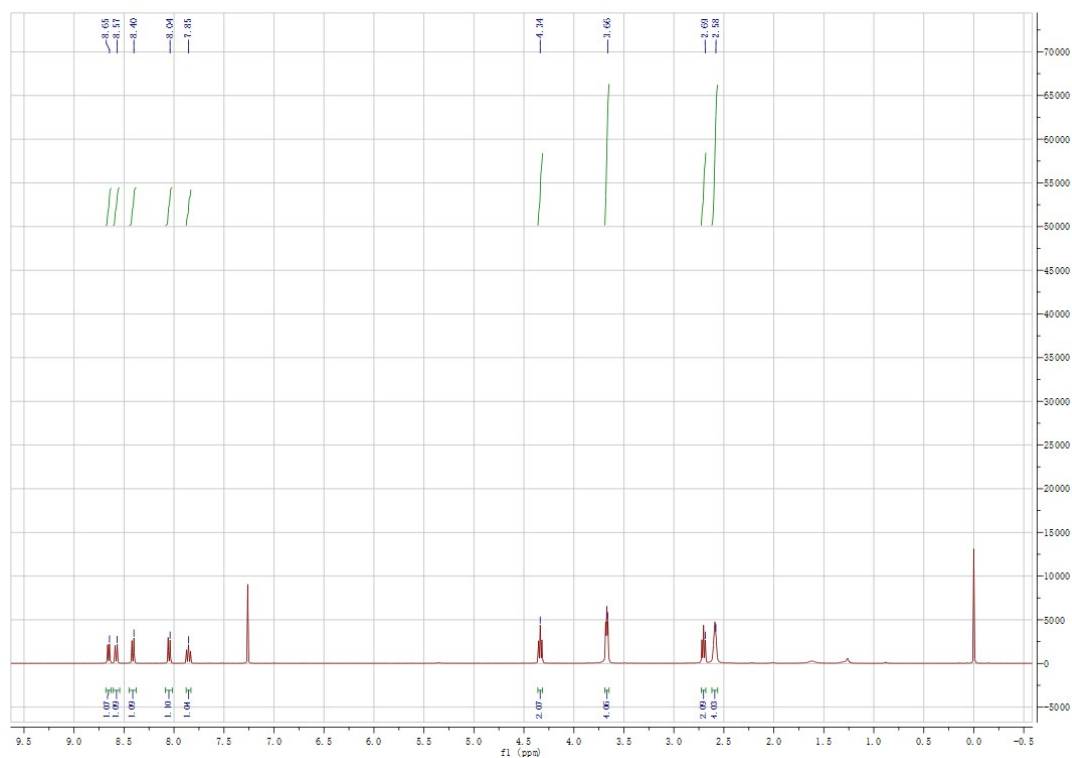


Fig S6. $^1\text{H-NMR}$ of N-(Morpholinoethylamino)-4-Bromo-1,8-Naphthalimide in CDCl_3

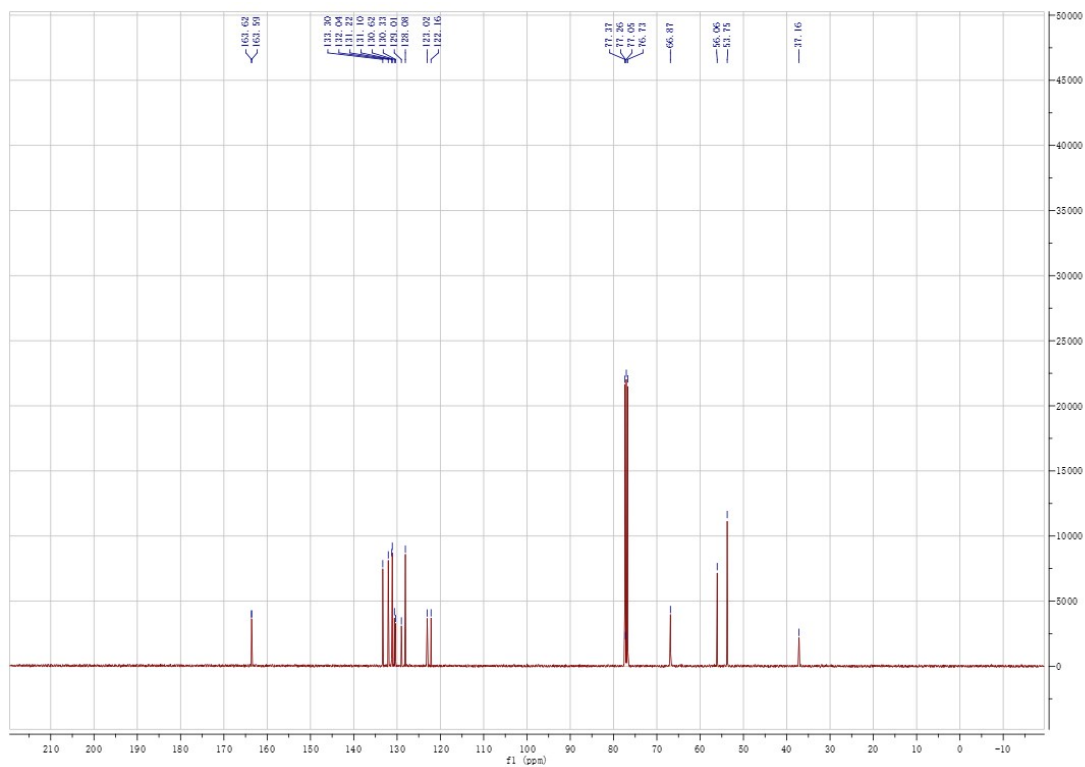


Fig S7. $^{13}\text{C-NMR}$ of N-(Morpholinoethylamino)-4-Bromo-1,8-Naphthalimide in CDCl_3

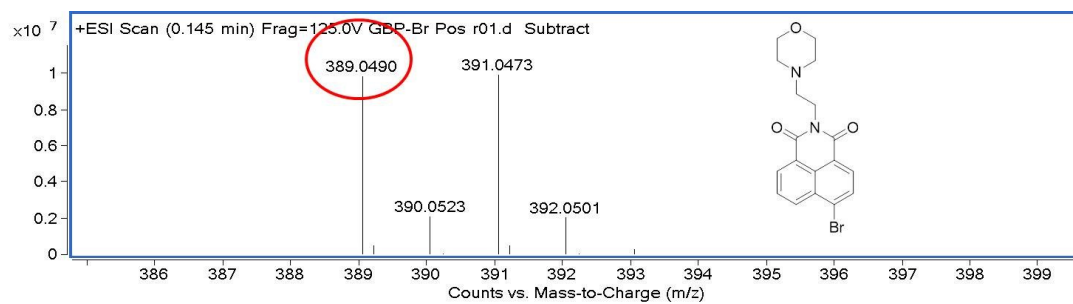


Fig S8. The mass spectrum of N-(Morpholinoethylamino)-4-Bromo-1,8-Naphthalimide



Fig S9. $^1\text{H-NMR}$ of N-(Morpholinoethylamino)-4-hydroxy-1,8-naphthalimide in DMSO

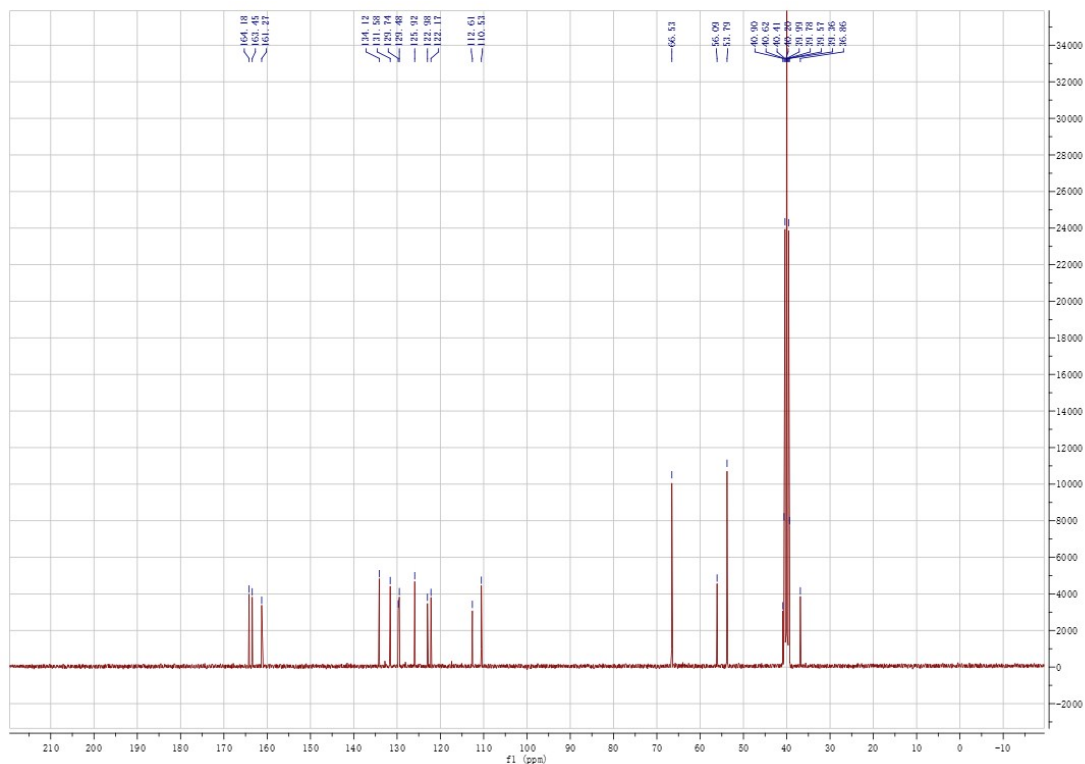


Fig S10. ^{13}C -NMR of N-(Morpholinoethylamino)-4-hydroxy-1,8-naphthalimide in DMSO

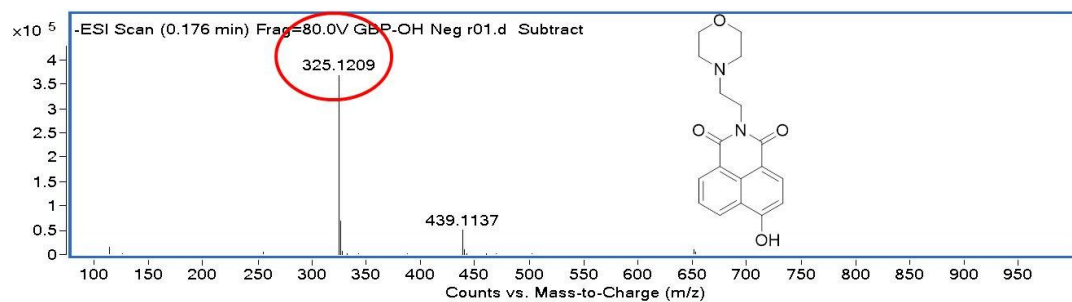


Fig S11. H-NMR of N-(Morpholinoethylamino)-4-hydroxy-1,8-naphthalimide

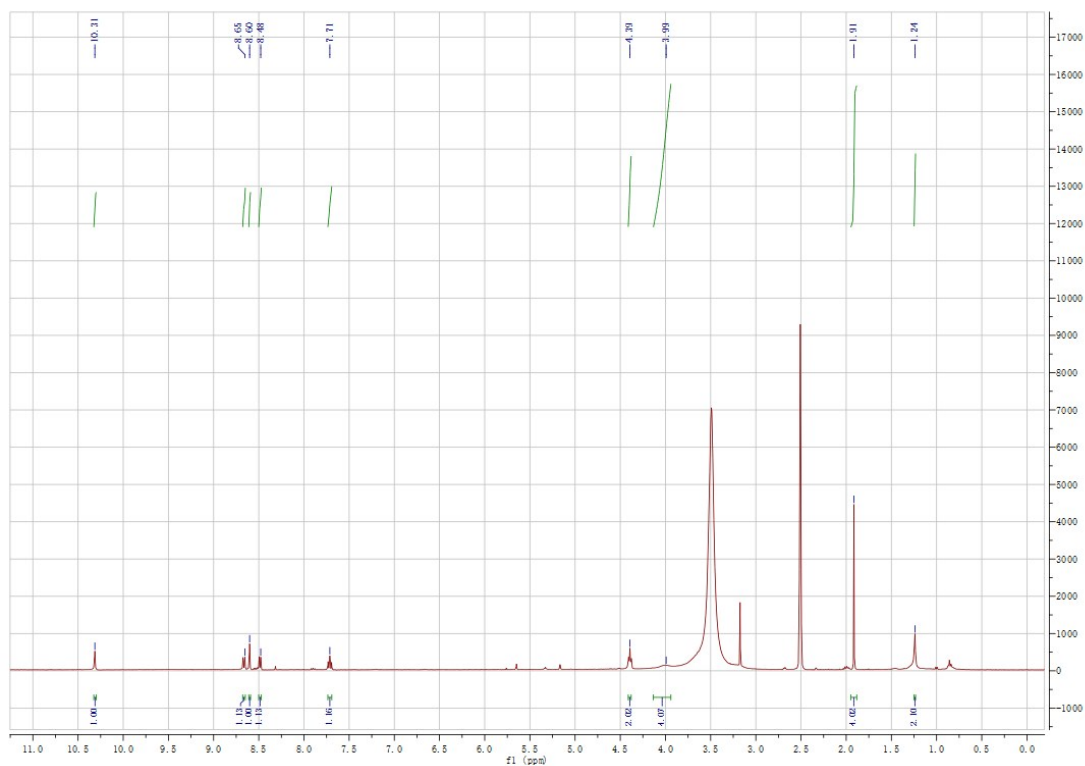


Fig S12. ^1H -NMR of N-(Morpholinoethylamino)-3-formyl -4-hydroxy-1,8-naphthalimide in DMSO

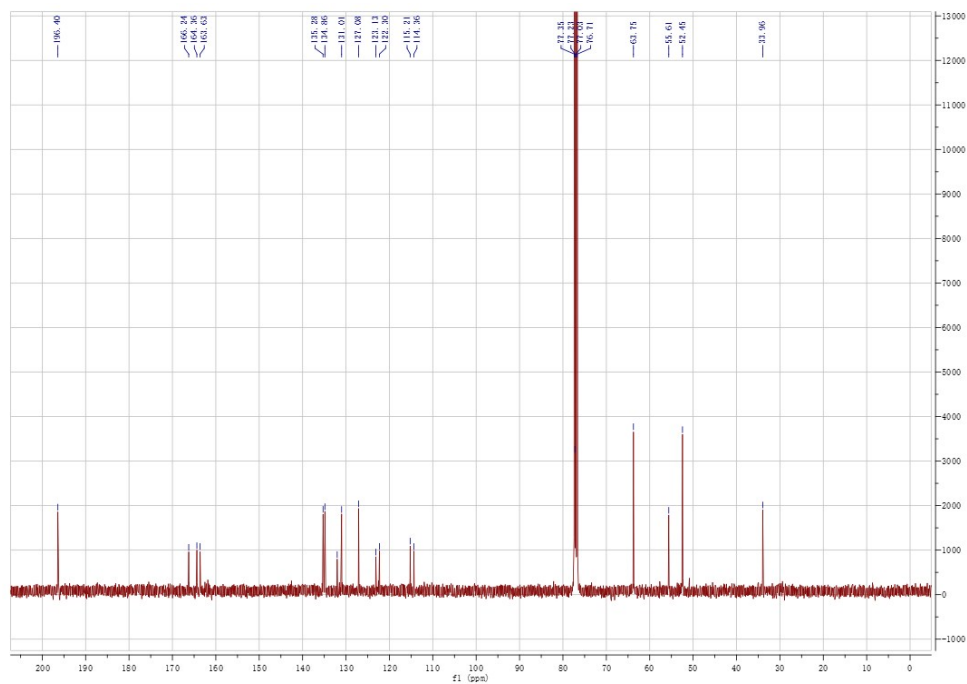


Fig S13. ^{13}C -NMR of N-(Morpholinoethylamino)-3-formyl -4-hydroxy-1,8-naphthalimide in CDCl_3

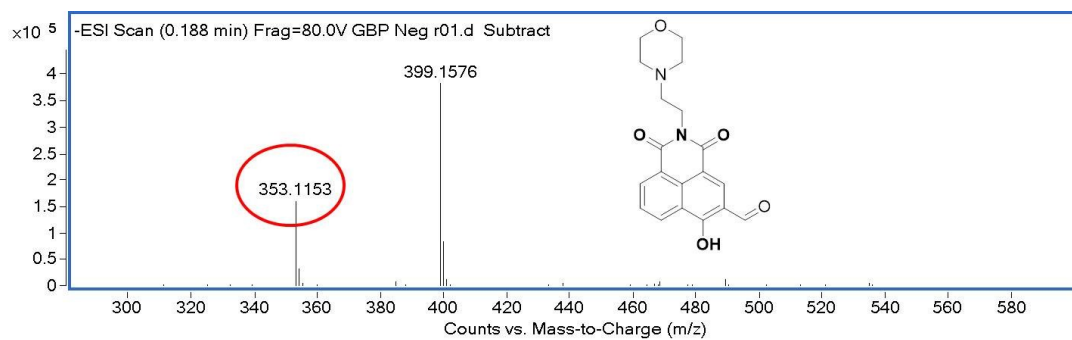


Fig S14. H-NMR of N-(Morpholinoethylamino)-3-formyl-4-hydroxy-1,8-naphthalimide

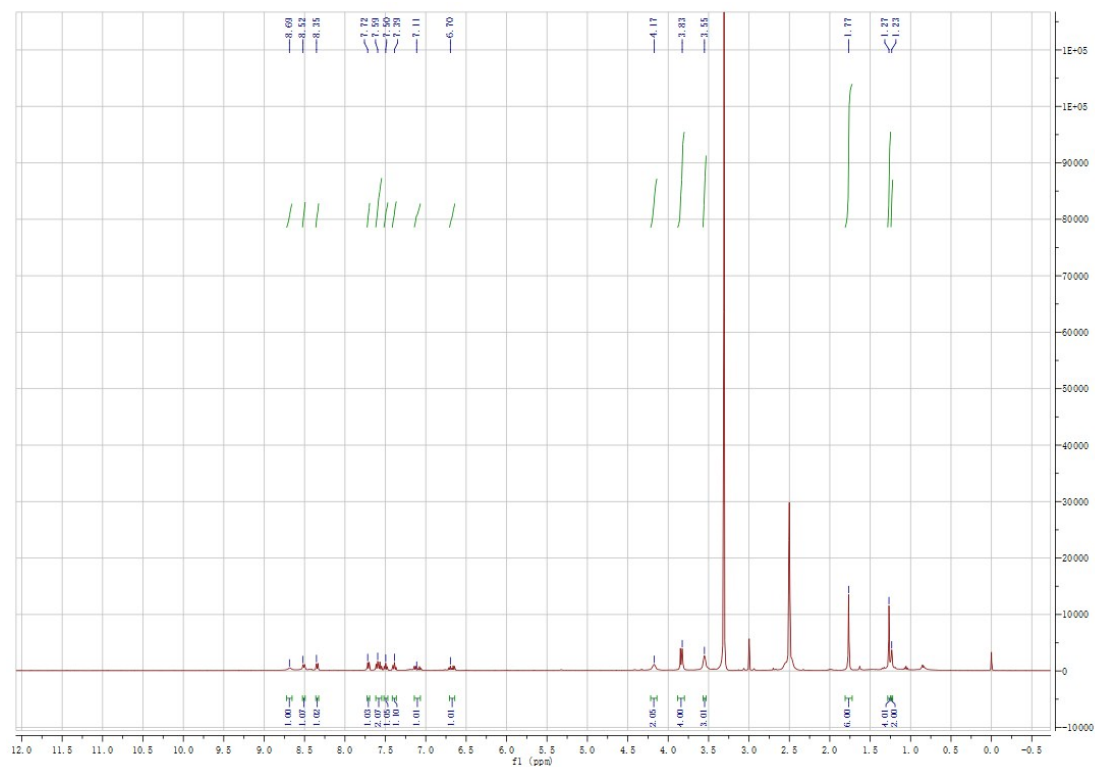


Fig S15. H-NMR of Lyso-NA in DMSO

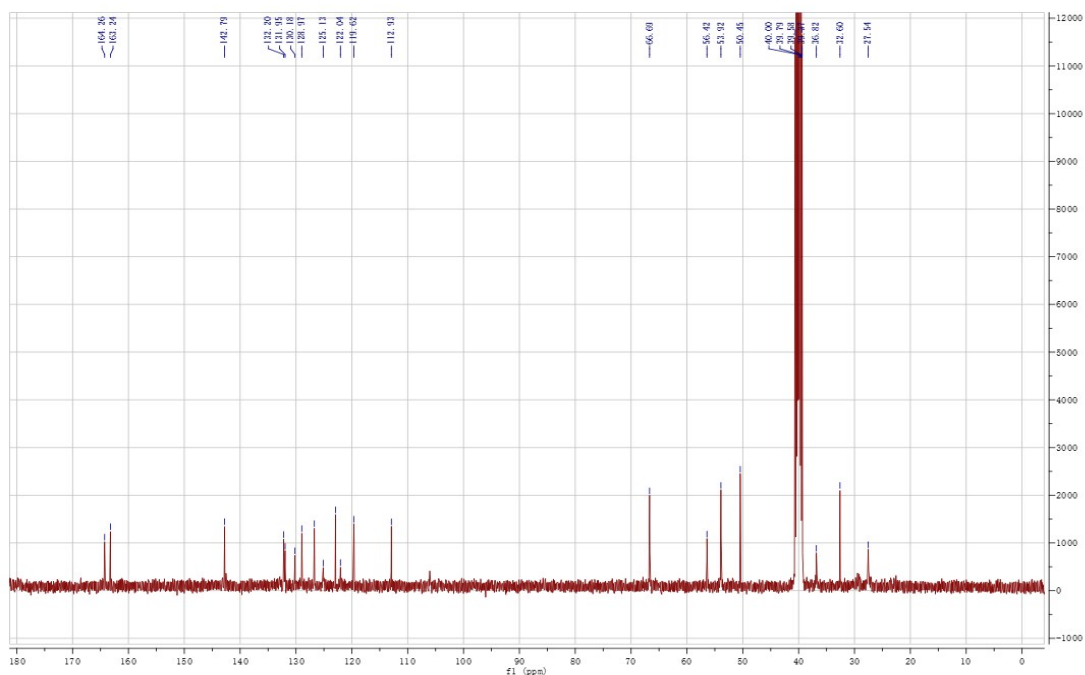


Fig S16. ^{13}C -NMR of Lyso-NA in DMSO

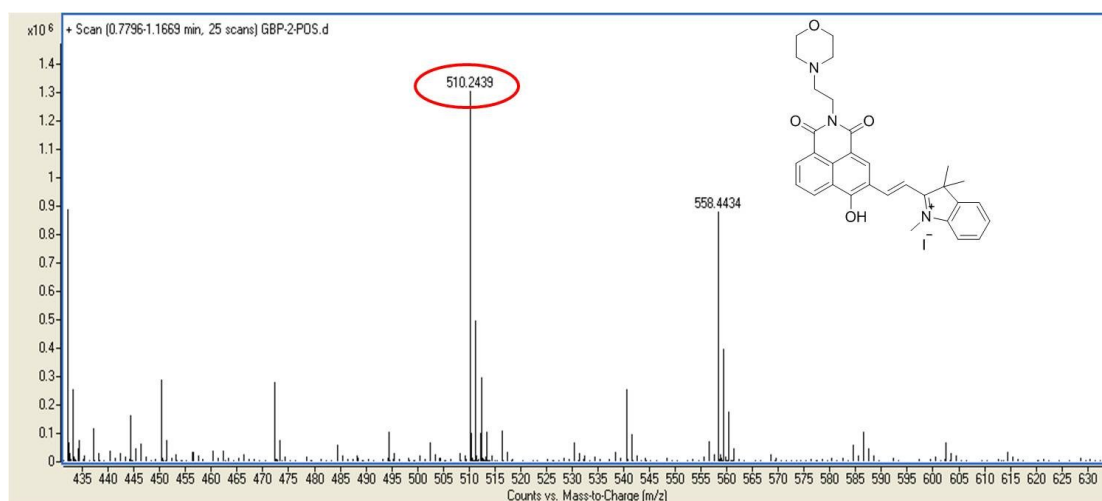


Fig S17. The mass spectrum of Lyso-NA

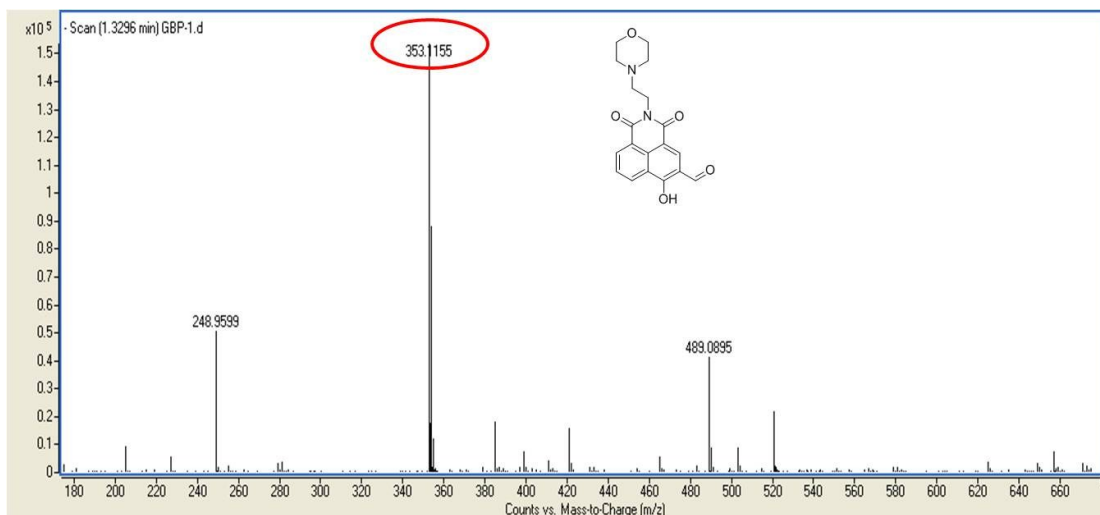


Fig S18. The mass spectrum of the reaction mixture of **Lyso-NA** with ONOO⁻