

A AIE probe for simultaneous monitoring of endogenous and exogenous hypochlorite and Zn²⁺ at dual channels in living cells

Na-Na Li^{a, b}, Ye-Jin Liang^{c, d}, Hai-Long Li^a, Ting-Ting Wei^a, Zhan-Bin Jin^a, Xing-Yu Xu^a, Hai-

Xian Ren^a, Wan-Ying Lin^b, Zi-Ao Zong^{b, e*}, Yao Zuo^{c, d, *}

^a Department of Chemistry, Xinzhou Normal University, Xinzhou, Shanxi 034000, PR China

^b Modern Industrial College of Biomedicine and Great Health, Youjiang Medical University for Nationalities, Baise 533000 Guangxi, PR China

^c Affiliated Hospital of Youjiang Medical University for Nationalities, Baise 533000 Guangxi, PR China

^d Guangxi Key Laboratory for Biomedical Material Research, Baise 533000 Guangxi, PR China

^e Key Laboratory of Research on Environment and Population Health in Aluminium Mining Areas (Youjiang Medical University for Nationalities), Education Department of Guangxi Zhuang Autonomous Region, Baise 533000 Guangxi, PR China

Corresponding author: zongziao@126.com (Z.-A. Zong); 313084767@qq.com (Y. Zuo)

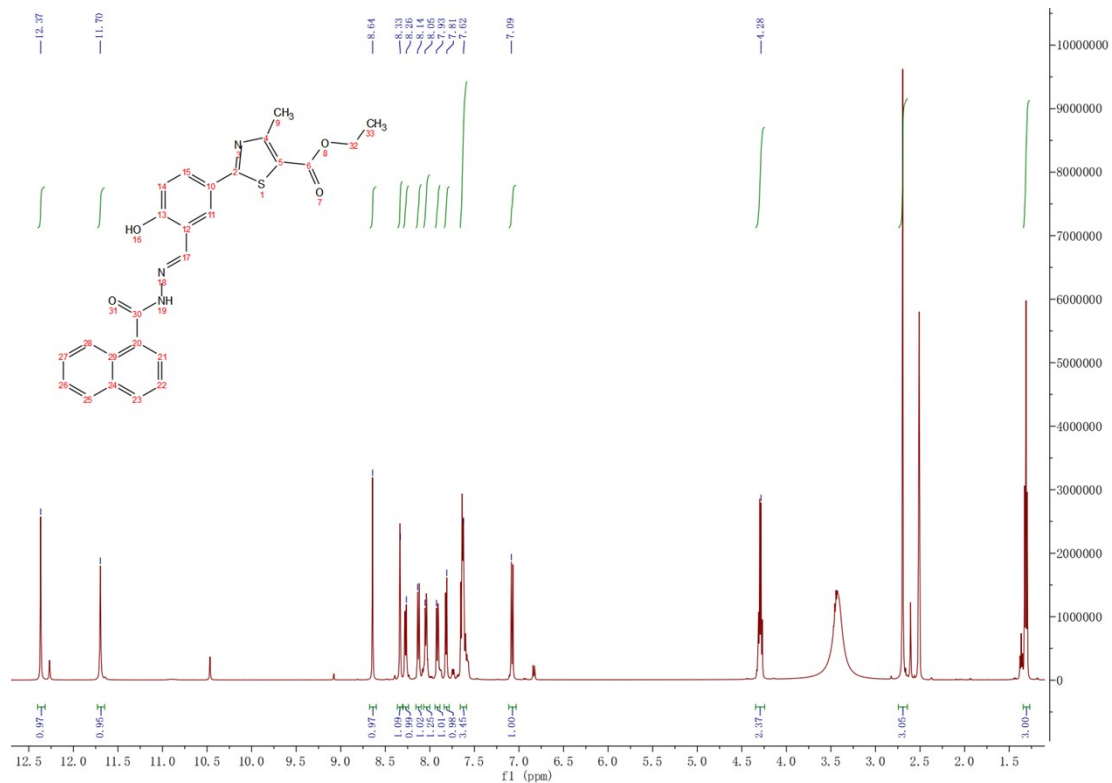


Fig. S1. $^1\text{H NMR}$ (DMSO- d_6 , 600 MHz) spectra of HNTe.

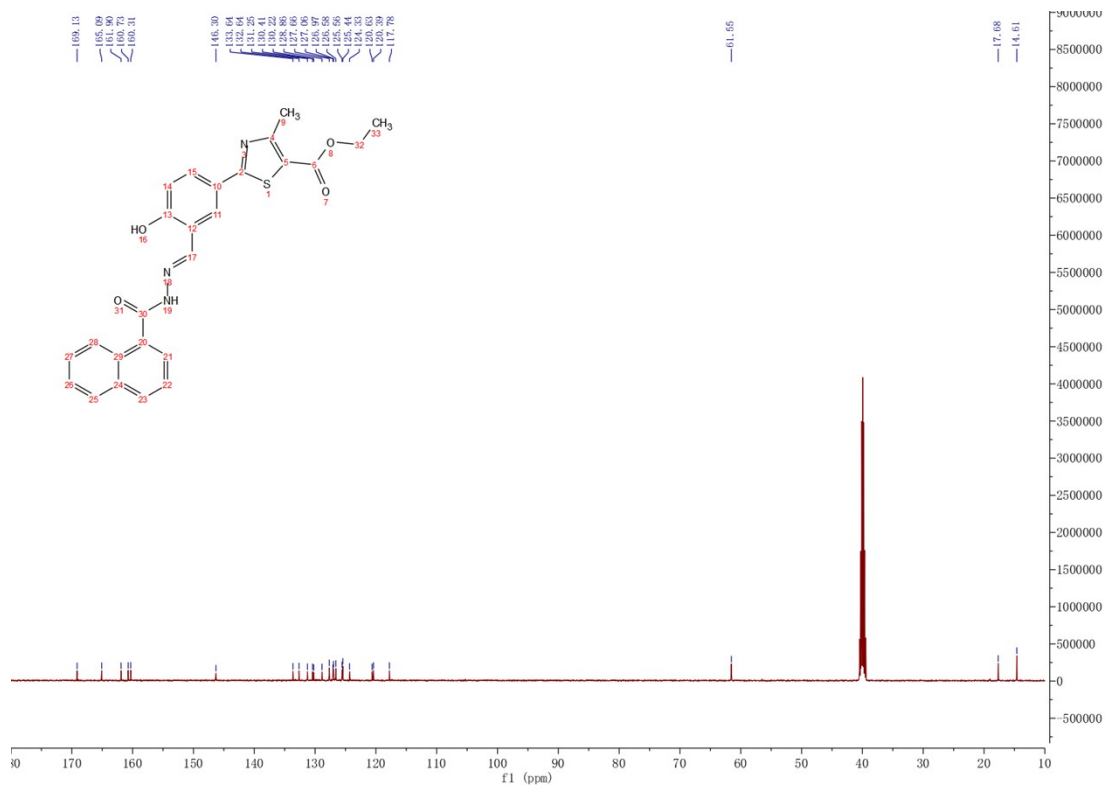


Fig. S2. $^{13}\text{C NMR}$ (DMSO- d_6 , 600 MHz) spectra of HNTe.

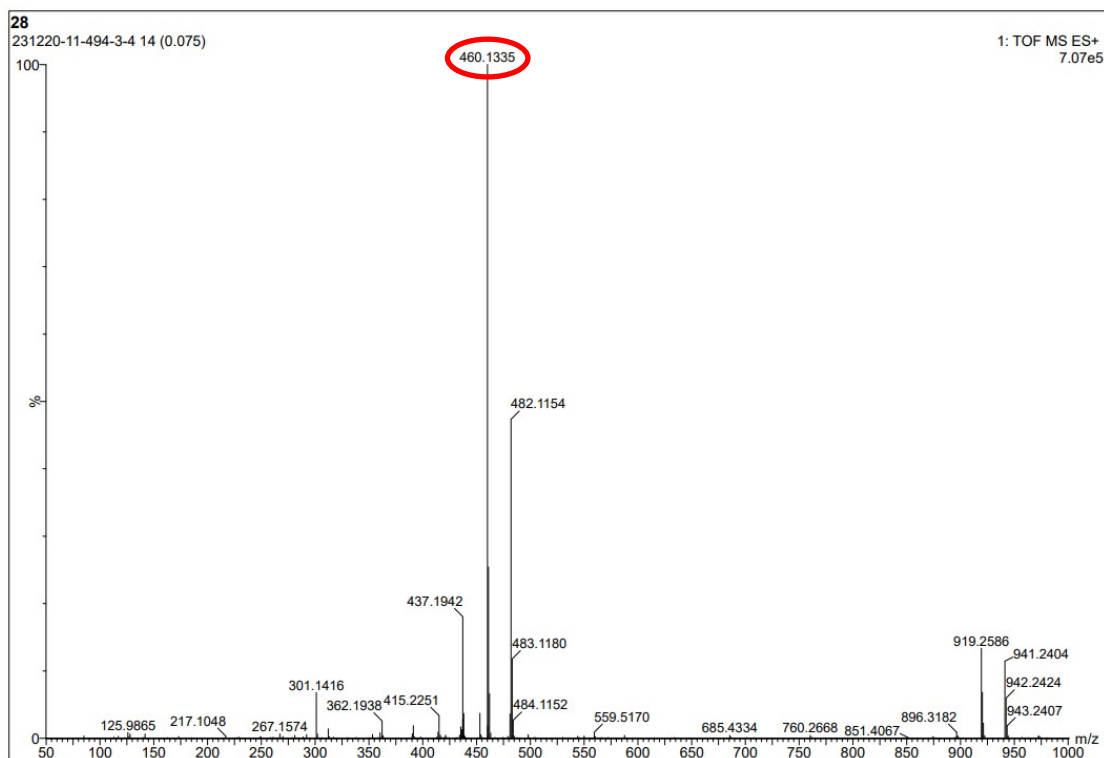


Fig. S3. ESI-MS spectrum of HNTE.

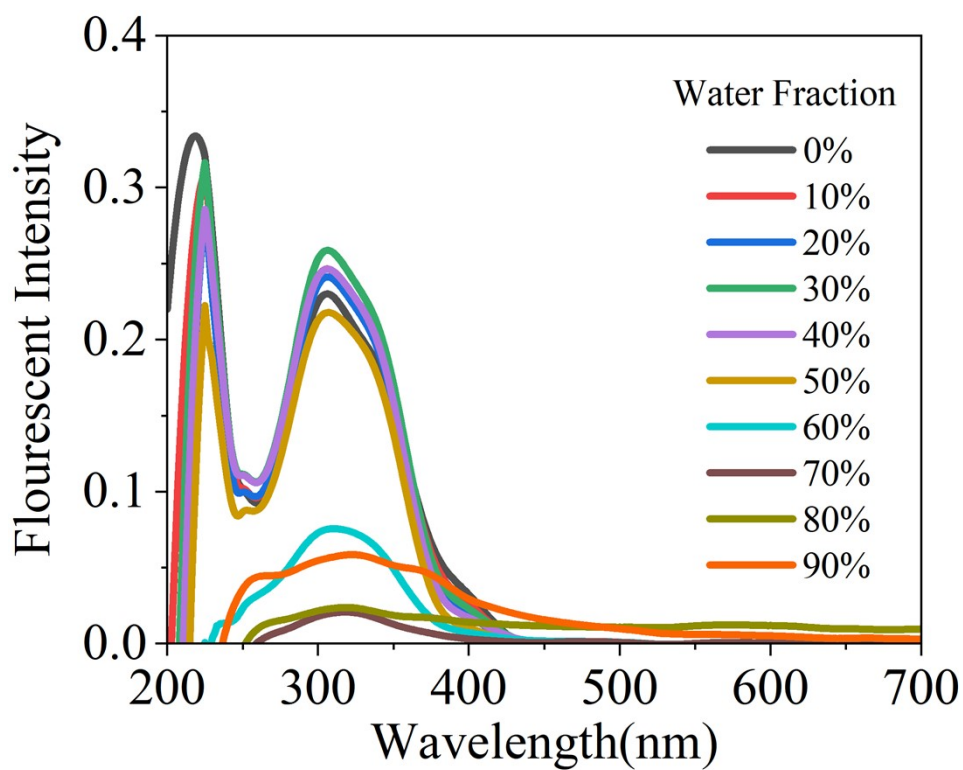


Fig. S4. (a) Fluorescence and (b) UV-vis spectra of HNTE (10 μ M) in EtOH/H₂O with different water fractions.

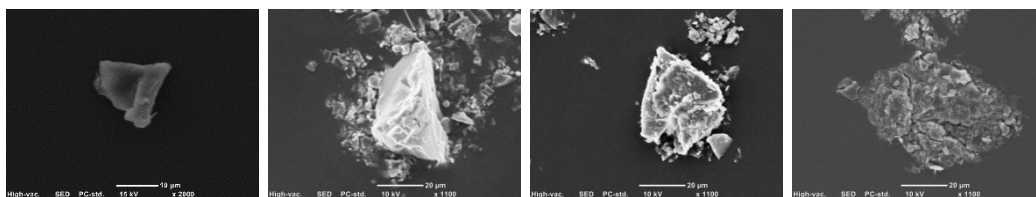


Figure S5: SEM of **HNTe** in (a) EtOH, (b) EtOH/H₂O (1/9, v/v), (c) **HNTe**+ClO⁻ and (d) **HNTe**+Zn²⁺ in EtOH/H₂O (1/9, v/v).

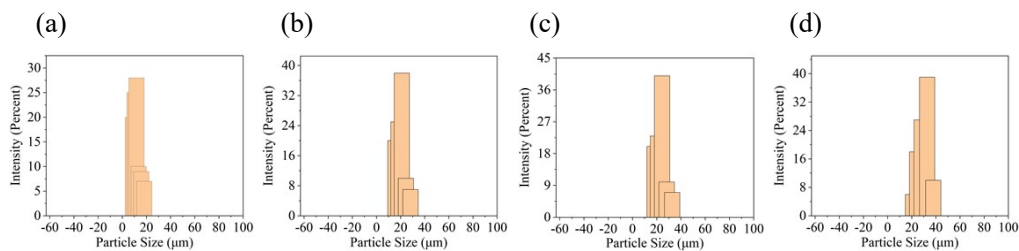


Figure S6: Particle size distributions of **HNTe** in (a) EtOH, (b) EtOH/H₂O (1/9, v/v), (c) **HNTe**+ClO⁻ and (d) **HNTe**+Zn²⁺ in EtOH/H₂O (1/9, v/v).

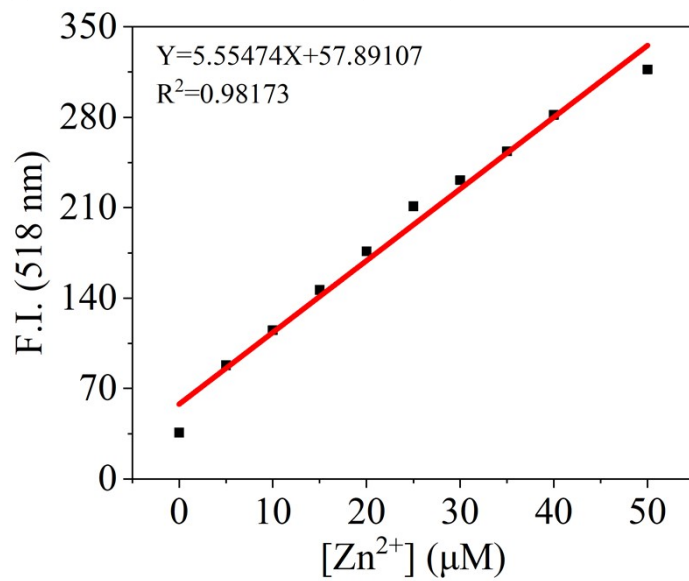


Fig. S7. The fluorescence intensity at 518 nm of **HNTe** (10 μM) and Zn²⁺ concentration range of 0-50 μM.

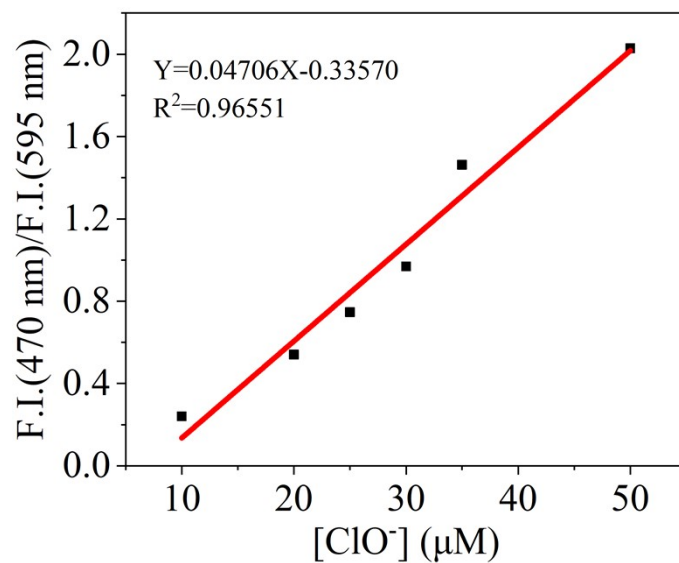


Fig. S8. The fluorescence intensity ratio of F_{470}/F_{595} of **HNTE** (10 μM) and ClO^- concentration range of 0-50 μM .

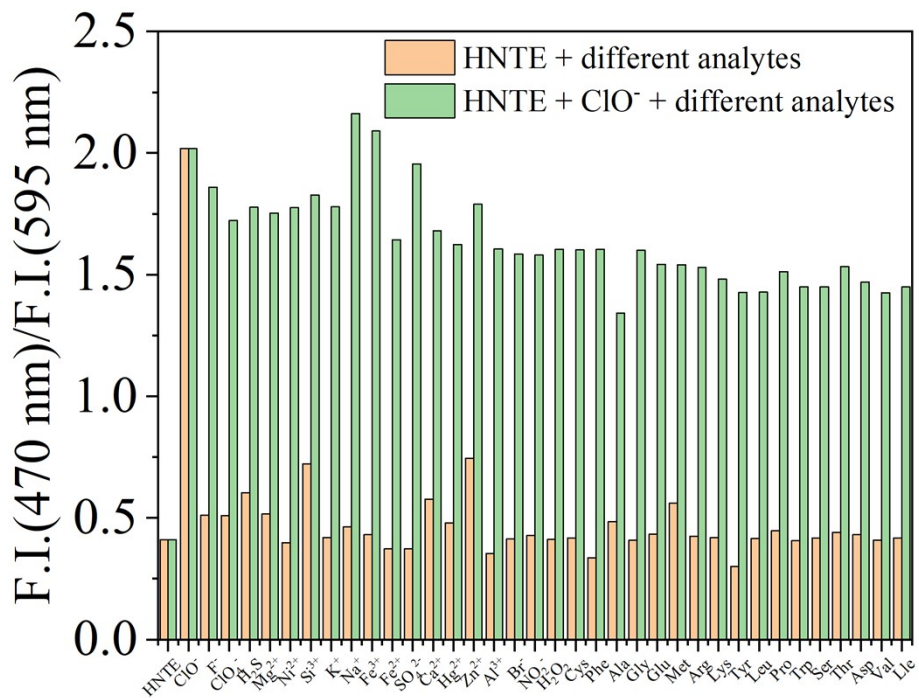


Fig. S9: The fluorescence intensity a of **HNTE** (10 μM) in the presence of ClO^- (50 μM) and additional other analytes (50 μM) in $\text{H}_2\text{O}/\text{EtOH}$ (9/1, v/v, pH=7.4) medium.

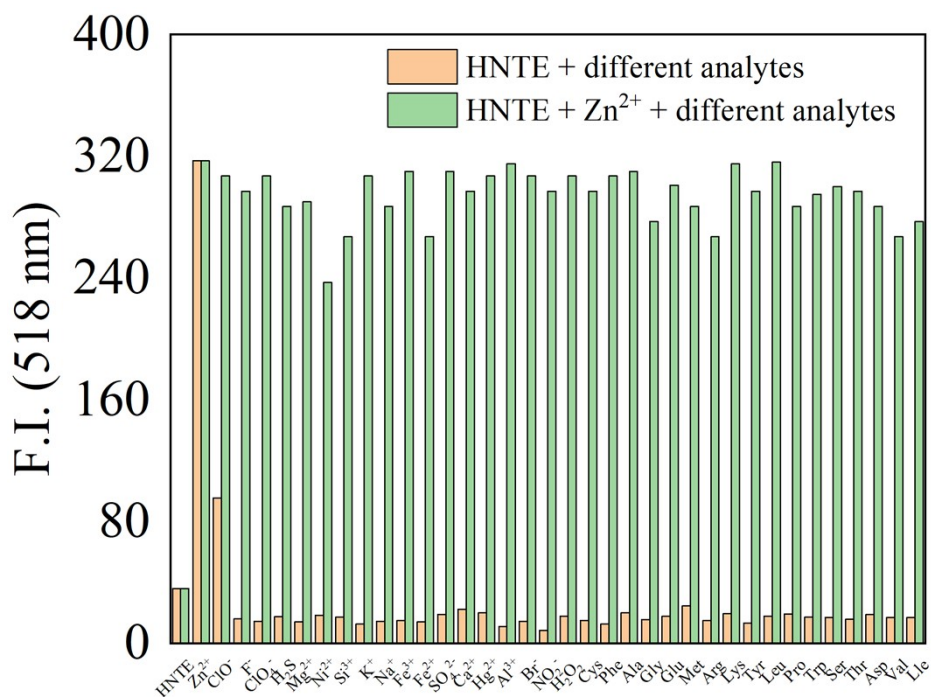


Fig. S10: The fluorescence intensity of **HNTTE** (10 μM) in the presence of Zn^{2+} (50 μM) and additional other analytes (50 μM) in $\text{H}_2\text{O}/\text{EtOH}$ (9/1, v/v, $\text{pH}=7.4$) medium.

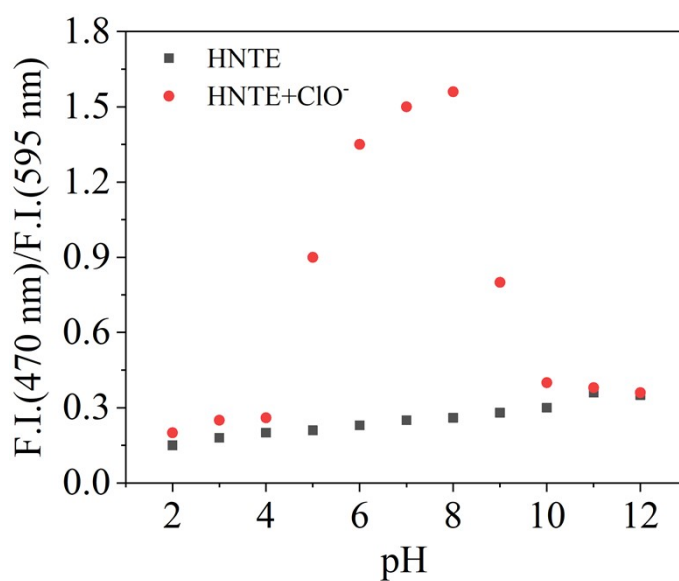


Fig. S11. The fluorescence intensity ratio of F_{530}/F_{470} of **HNTTE** (10 μM) in the absence and presence of ClO^- (5 equiv) at various pH values.

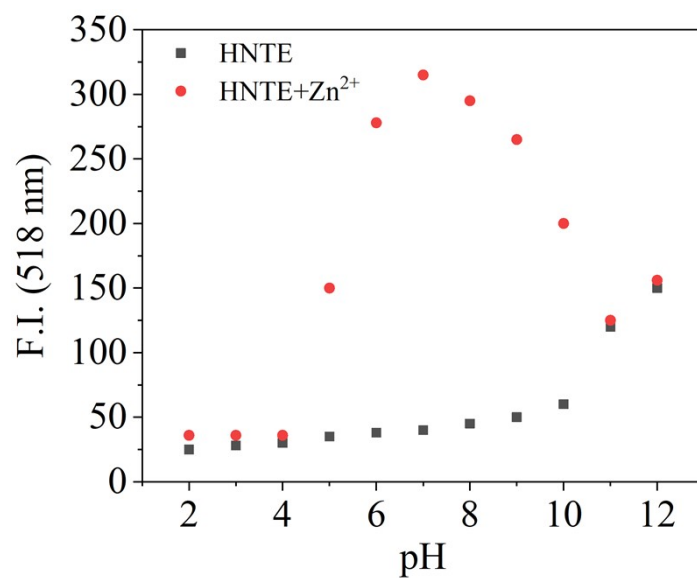


Fig. S12. The fluorescence intensity at 518 nm of **HNTe** (10 μ M) in the absence and presence of **Zn²⁺** (5 equiv) at various pH values.

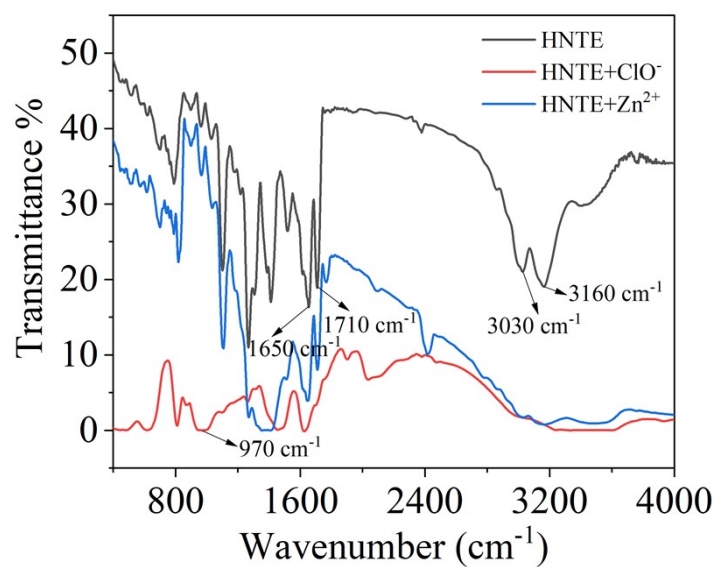


Fig. S13. FT-IR spectra of **HNTe**, **HNTe/ClO⁻** and **HNTe/Zn²⁺** system.

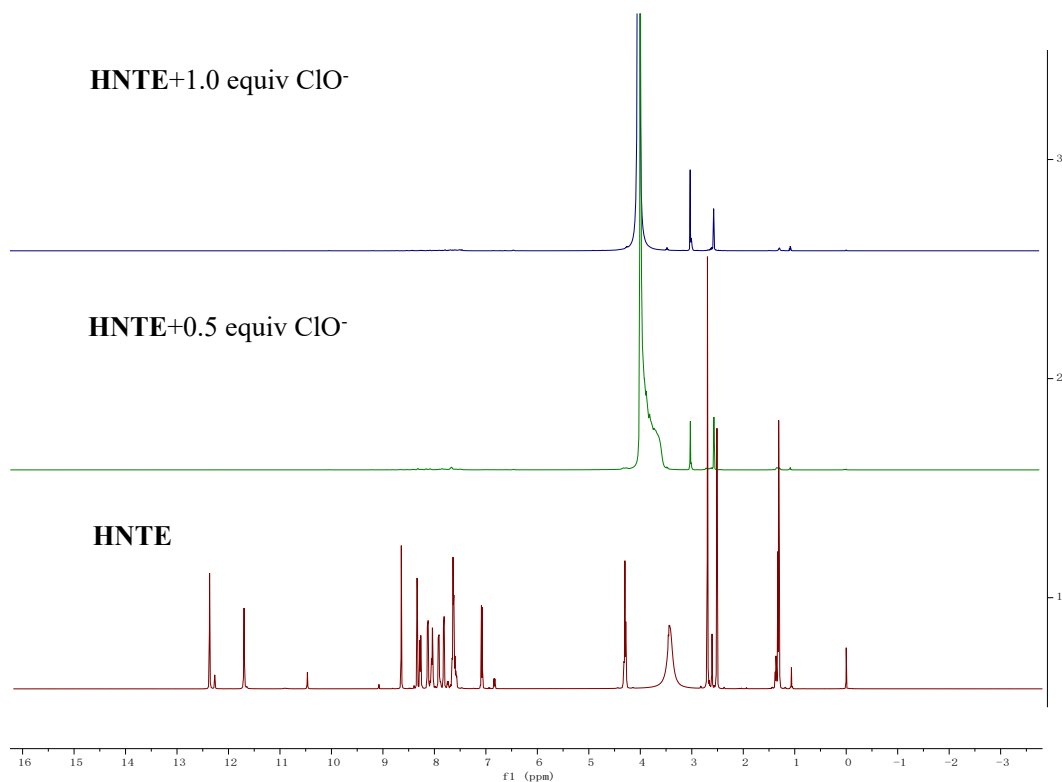


Fig. S14. ^1H NMR spectra of HNTE and HNTE/ ClO^- system ($\text{DMSO-}d_6$, 600 MHz).

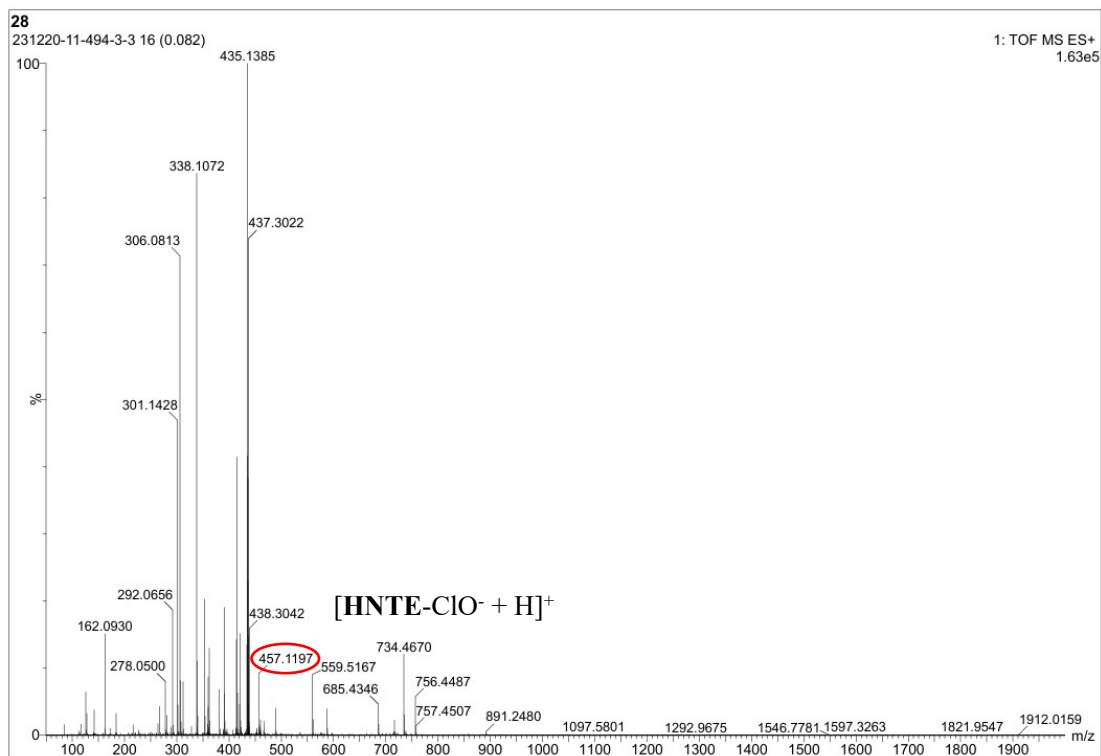


Fig. S15. HRMS spectrum of HNTE/ ClO^- .

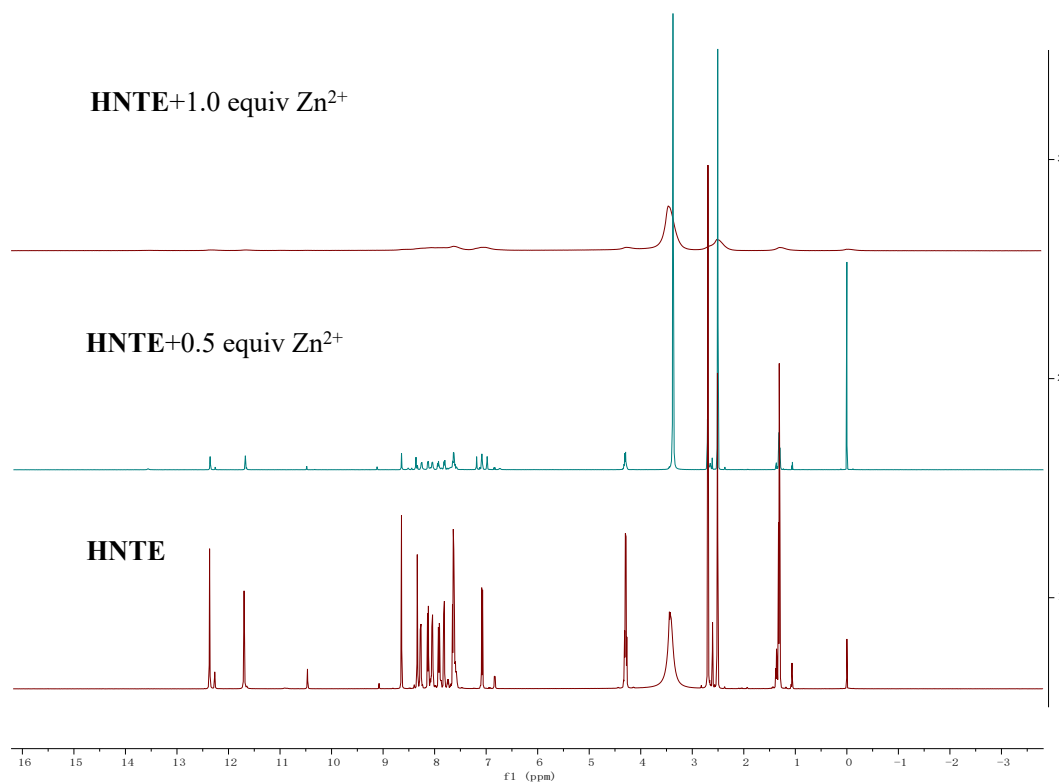


Fig. S16. ^1H NMR spectra of HNTe and HNTe/ Zn^{2+} system ($\text{DMSO-}d_6$, 600 MHz).

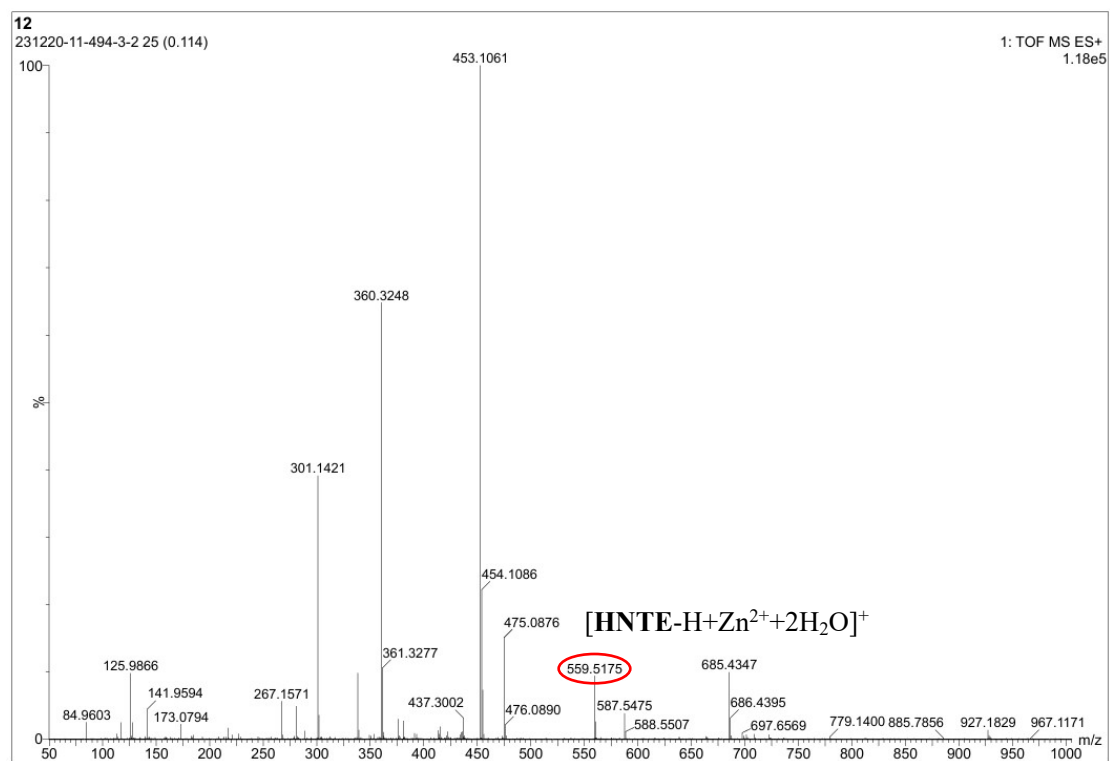


Fig. S17. HRMS spectrum of HNTe/ Zn^{2+} .

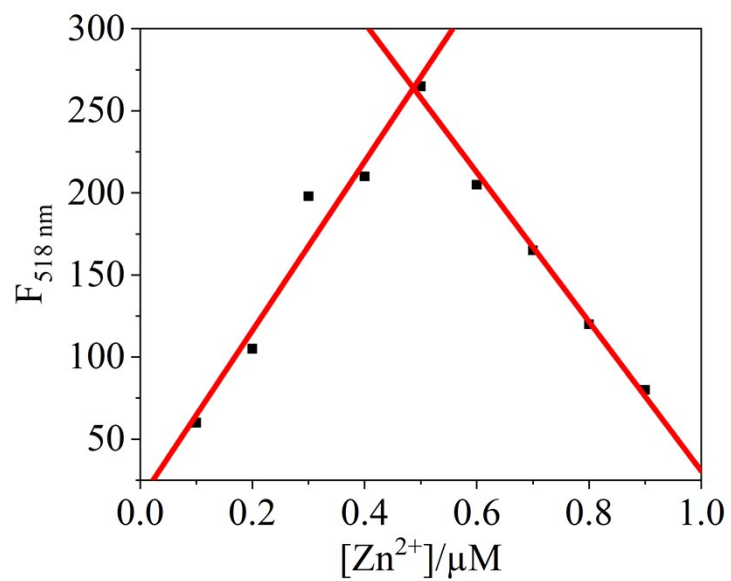


Fig. S18. Job's plot of **HNTe**- Zn^{2+} system in $\text{H}_2\text{O}/\text{EtOH}$ (9/1, v/v, $\text{pH}=7.4$) medium.