

An endoplasmic reticulum-targetable fluorescent probe for highly selective detection of hydrogen sulfide

Hui Zhang,^{a,b} Jiali Chen,^b Haiqing Xiong,^a Yun Zhang,^a Wenqiang Chen,^{*b} Jiarong Sheng,^b and Xiangzhi Song.^{*a,c}

^aCollege of Chemistry & Chemical Engineering, Central South University, Changsha, Hunan 410083, P. R. China.

^bCollege of Chemistry and Materials Science, Guangxi Key Laboratory of Natural Polymer Chemistry and Physics, Nanning Normal University, Nanning 530001, P. R. China.

^cKey Laboratory of Hunan Province for Water Environment and Agriculture Product Safety, Changsha, China, 410083.

*Corresponding author: E-mail: xzsong@csu.edu.cn; Fax: +86-731-88836954; E-mail: chenwq@csu.edu.cn; Fax: +86 771 3908065.

Table of contents

Figure S1.3

Figure S2.3

Figure S3.4

Figure S4.4

Figure S5.5

Figure S6.5

Figure S76

Figure S86

Figure S9.7

Figure S107

Figure S118

Figure S12.8

Figure S139

Figure S149

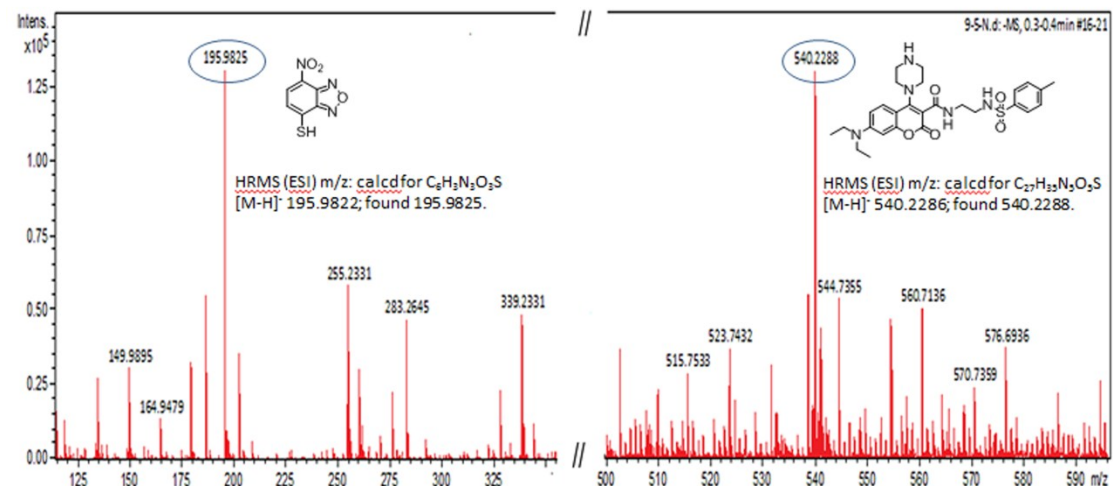


Figure S1. HRMS spectrum of ER-CN in the presence of H₂S

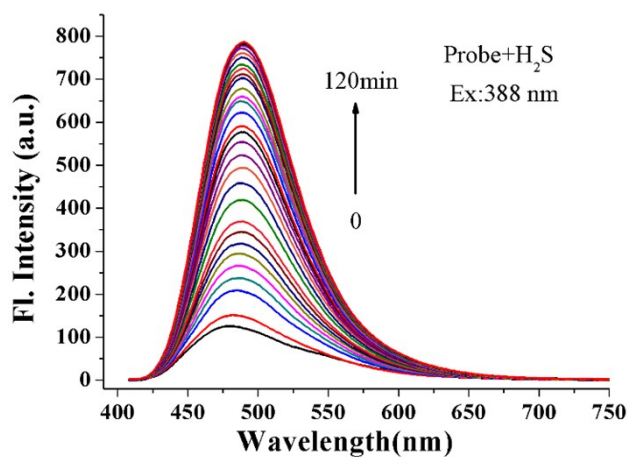


Figure S2. Time-dependent fluorescent spectra of ER-CN (10 μ M) toward 60 equiv. of H₂S in PBS buffer (10 mM, pH 7.4, containing 30% DMSO) at room temperature.

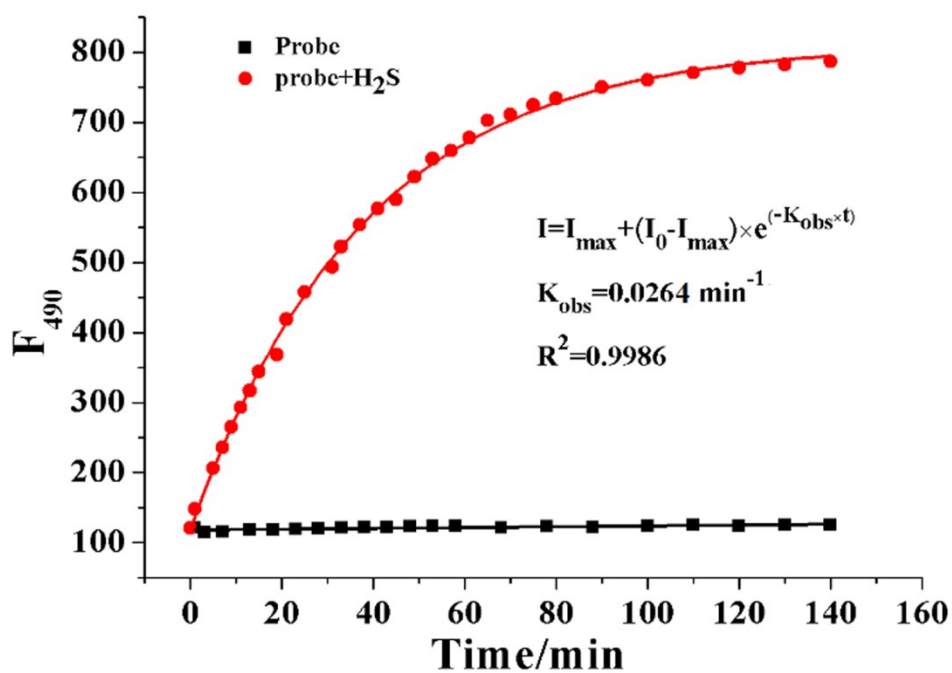


Figure S3. Time-dependent fluorescence intensity changes of ER-CN (10 μ M) toward 60 equiv. of H_2S in PBS buffer (10 mM, pH 7.4, containing 30% DMSO) at room temperature.

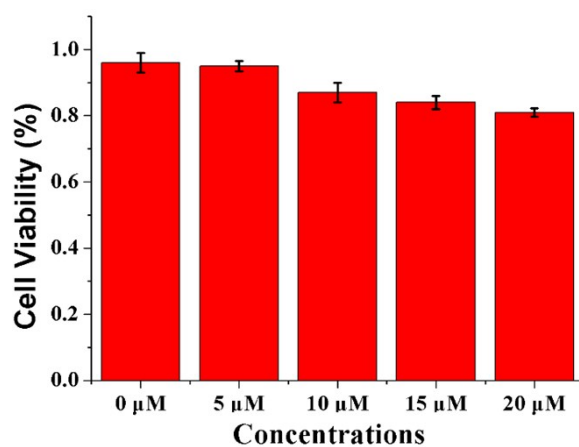


Figure S4. Percentage of viable HeLa cells after treatment with indicated concentrations of ER-CN after 24 hours.

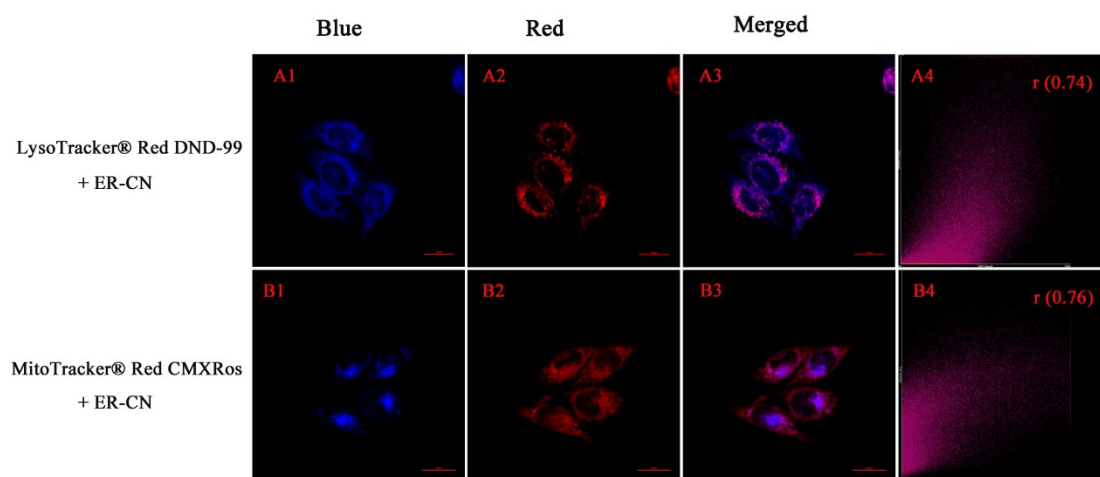


Figure S5. Fluorescence images of HeLa cells pretreated with H_2S and then co-stained by ER-CN ($5\text{ }\mu\text{M}$) and respective organelle probes. (A1-A4) 0.1 mM H_2S for 15 min, then ER-CN ($5\text{ }\mu\text{M}$) and LysoTracker® Red DND-99 ($1\text{ }\mu\text{M}$) for 30 min. (B1-B4) 0.1 mM H_2S for 15 min, then ER-CN ($5\text{ }\mu\text{M}$) and MitoTracker® Red CMXRos ($1\text{ }\mu\text{M}$) for 30 min. Scale bar: $20\text{ }\mu\text{m}$.

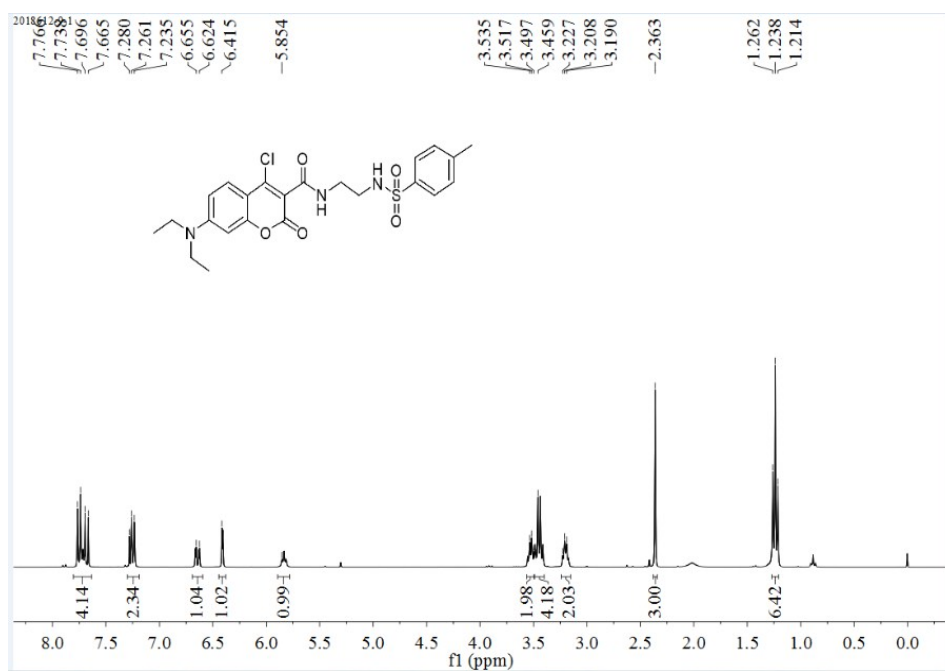


Figure S6. ^1H NMR spectrum of compound 3.

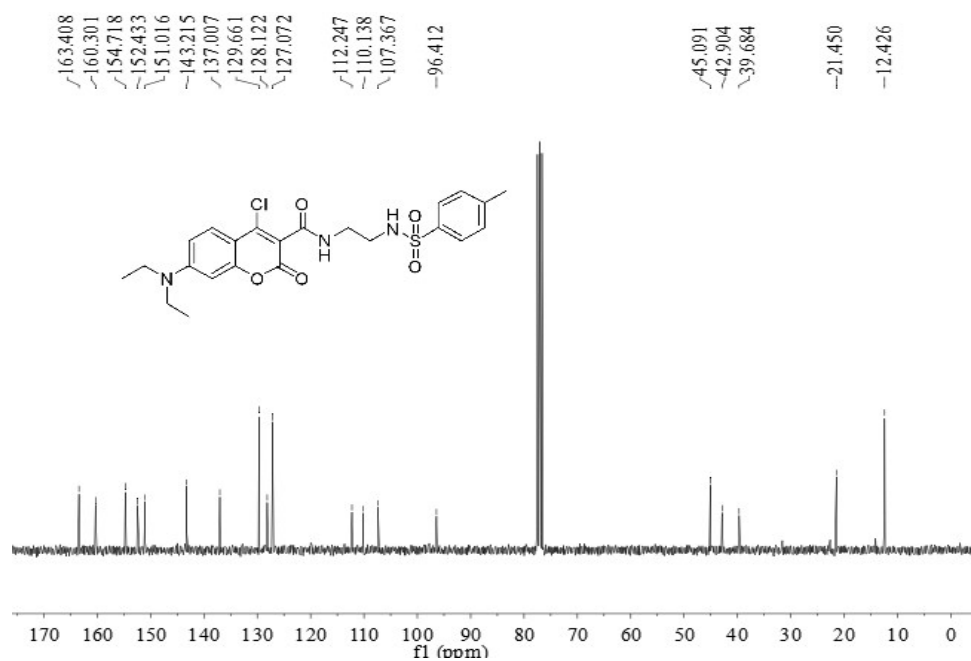


Figure S7. ¹³CNMR spectrum of compound 3.

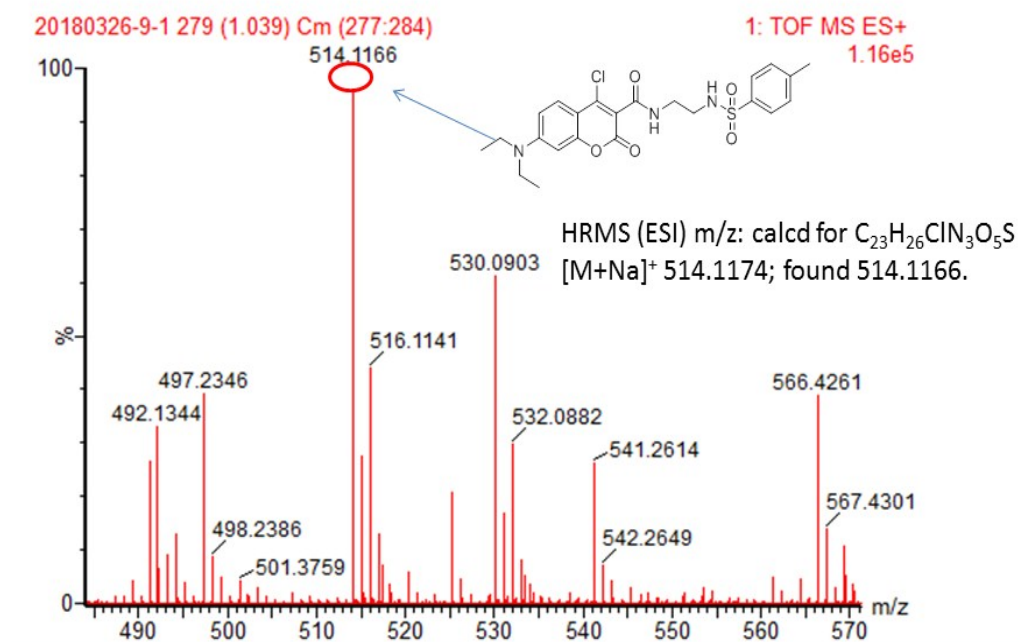


Figure S8. HRMS spectrum of compound 3.

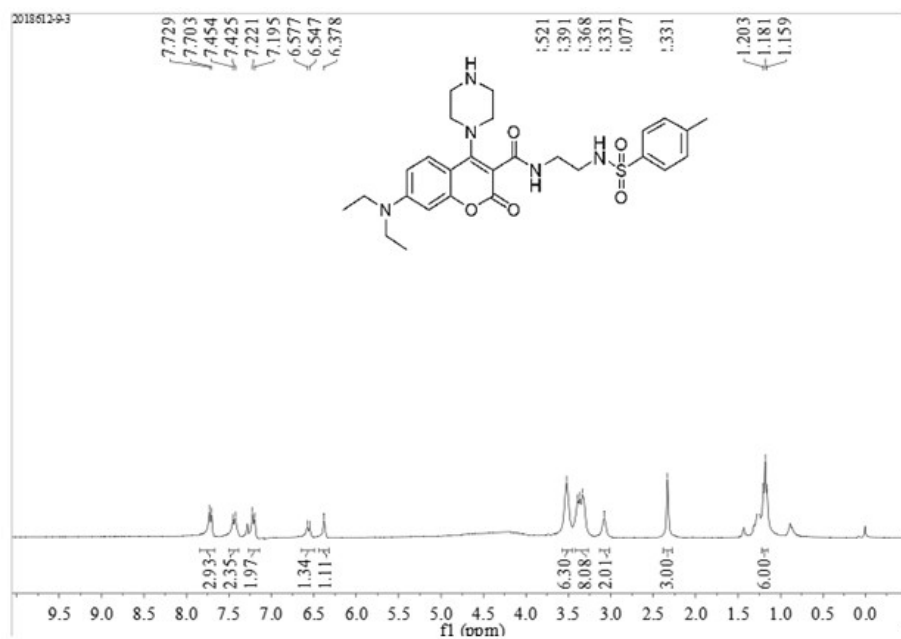


Figure S9. ¹H NMR spectrum of compound ER-C.

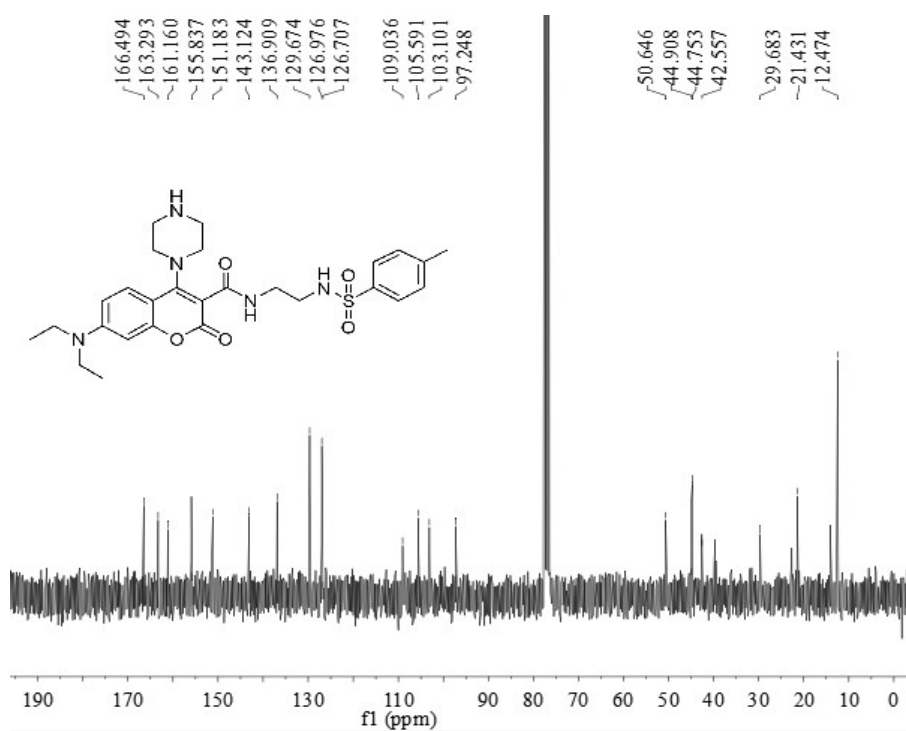


Figure S10. ¹³C NMR spectrum of compound ER-C.

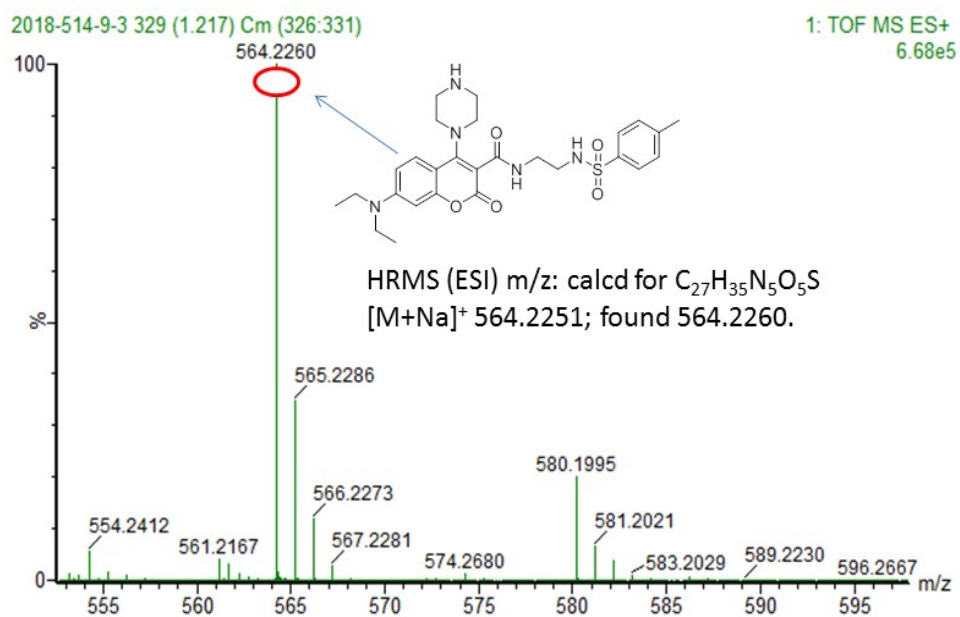


Figure S11. HRMS spectrum of **ER-C**.

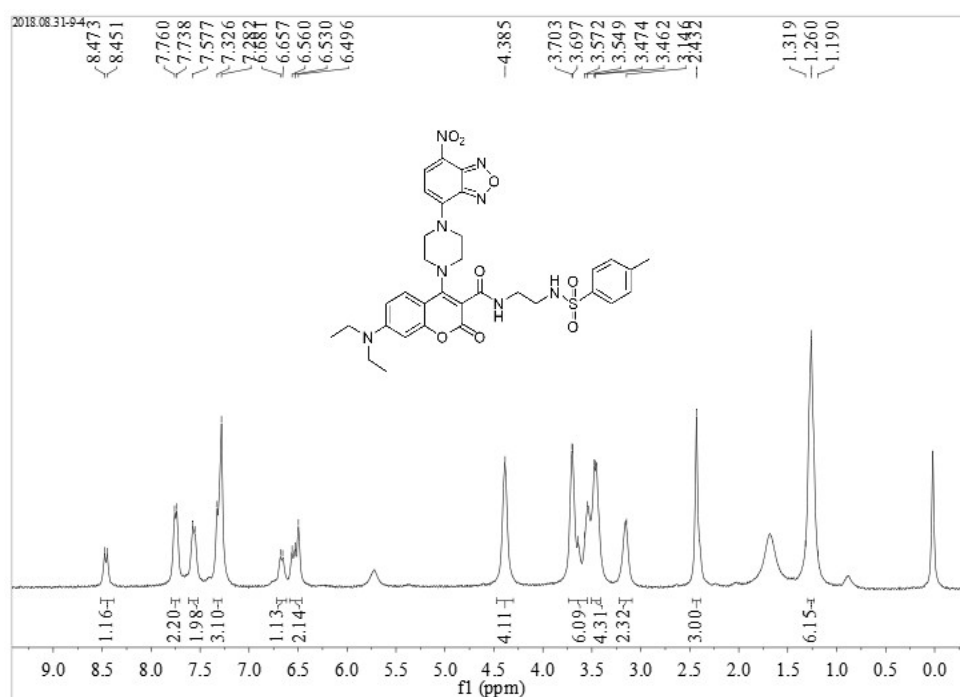


Figure S12. 1H NMR spectrum of compound **ER-CN**.

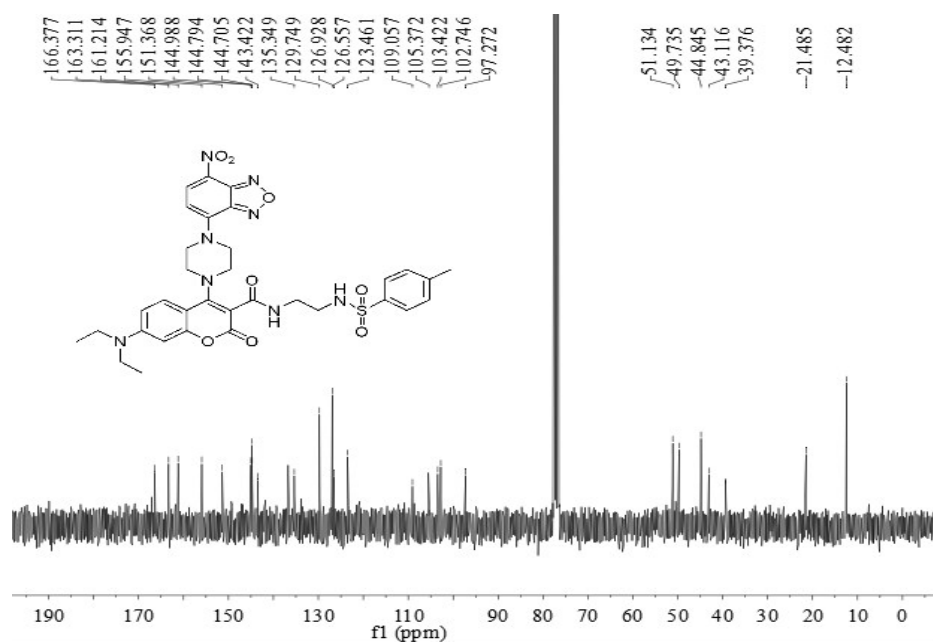


Figure S13. ¹³C NMR spectrum of compound ER-CN.

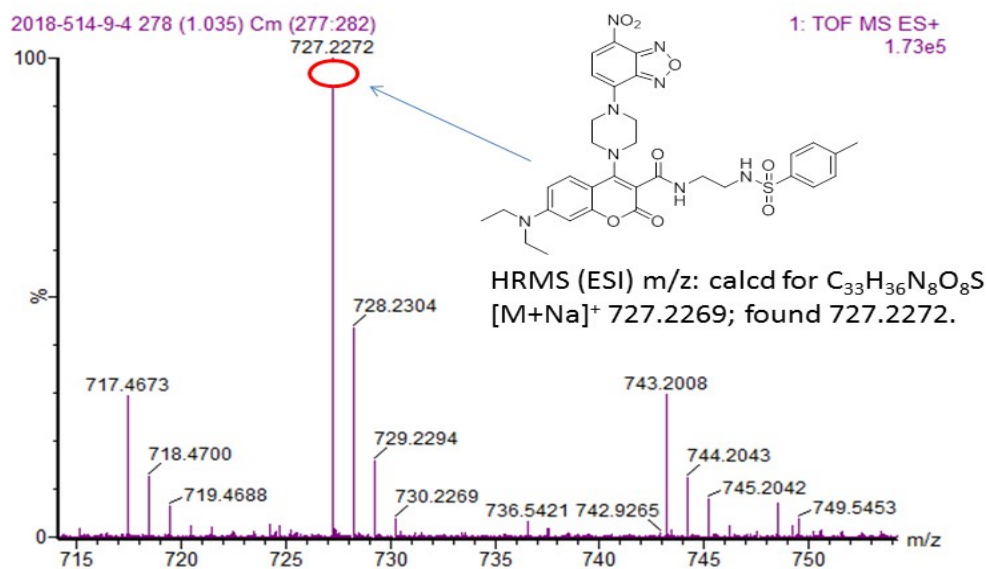


Figure S14. HRMS spectrum of ER-CN.