

Electronic Supplementary data For

**A sensitive and selective red fluorescent probe for imaging of
cysteine in living cells and animals**

Xuezhen Song, Baoli Dong, Xiuqi Kong, Chao Wang, Nan Zhang, Weiyong Lin*

Institute of Fluorescent Probes for Biological Imaging, School of Chemistry and
Chemical Engineering, School of Materials Science and Engineering, University of
Jinan, Jinan, Shandong 250022, P.R. China

*Corresponding Author.

Tel.: +86 53182769108.

E-mail address: weiyonglin2013@163.com.

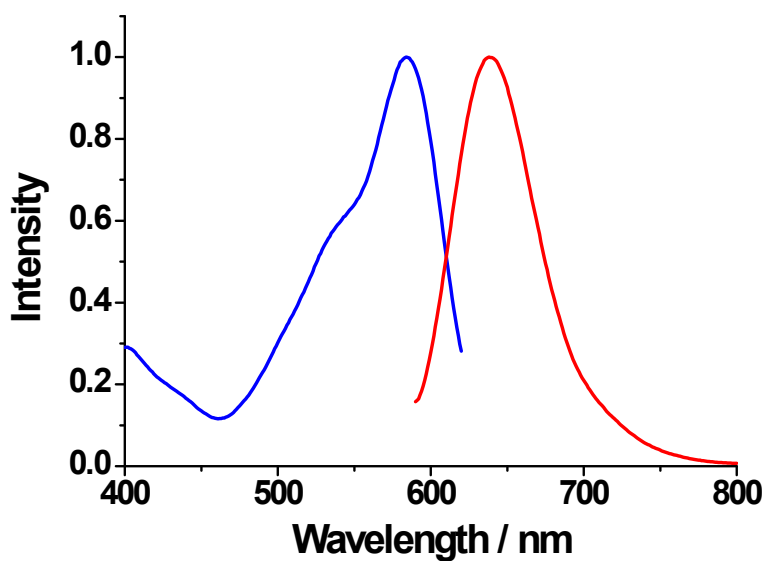


Fig. S1 Normalized excitation spectrum (blue, $\lambda_{em} = 638$ nm) and emission spectrum (red, $\lambda_{ex} = 556$ nm) of 5 μ M **RCys** in the presence of 100 μ M Cys in PBS (5% methanol, pH = 7.4)

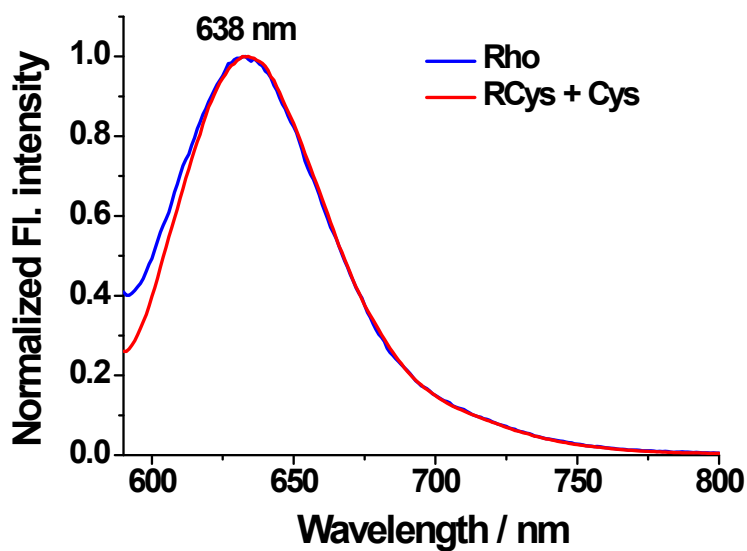


Fig. S2 Normalized fluorescence spectrum of 5 μ M **Rho** (blue) and 5 μ M **RCys** + 100 μ M Cys (red) under excitation at 556 nm in PBS (5% MeOH, pH = 7.4).

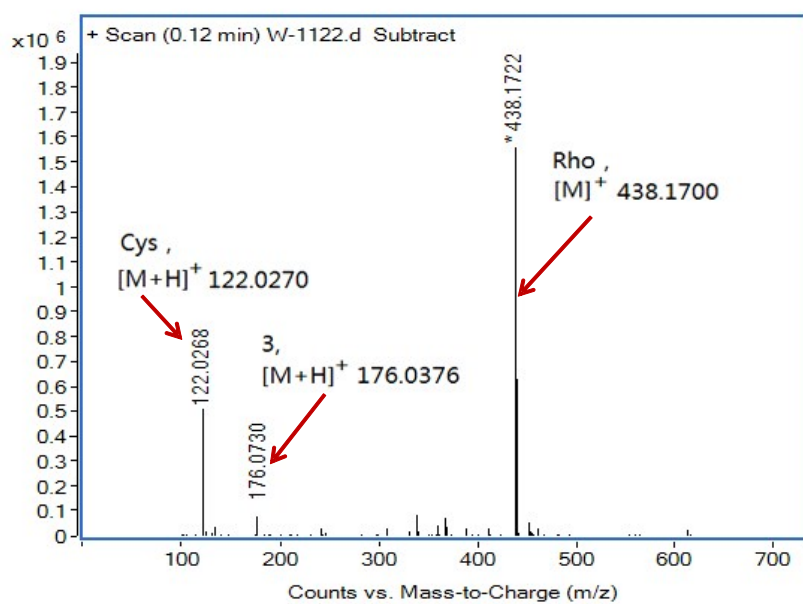


Fig. S3 HRMS assay of the reaction products of **RCys** with Cys.

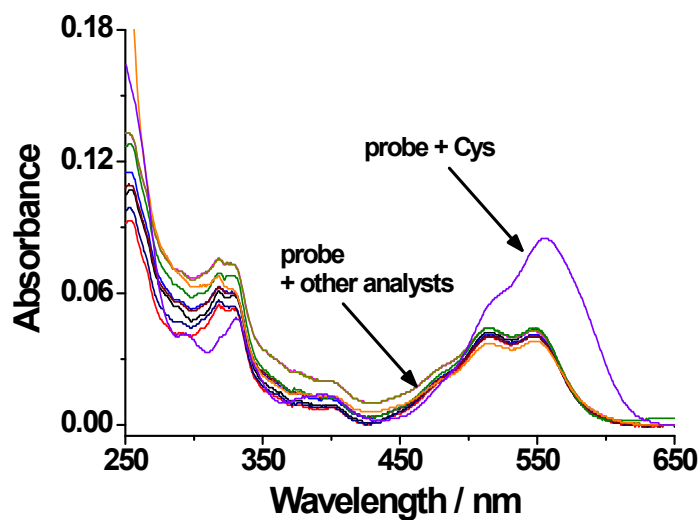


Fig. S4 Absorption spectra of 5 μM **RCys** in presence of various species in PBS buffer (20 mM, 5% methanol, pH = 7.4).

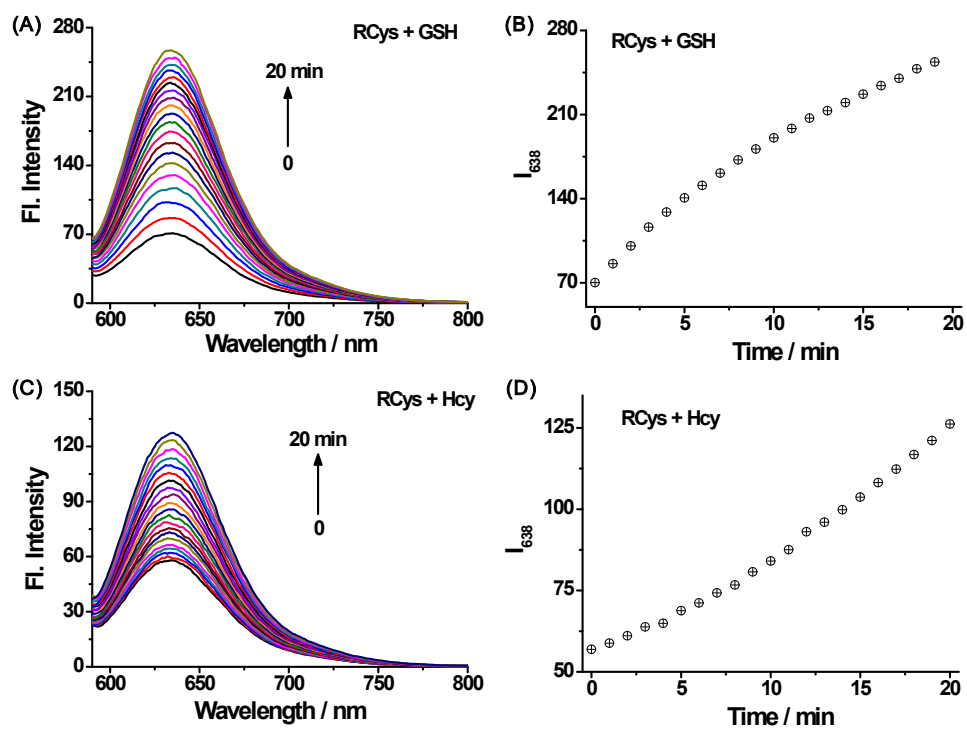


Fig. S5 Time-dependent fluorescence spectra and intensities at 638 nm of 5 μM RCys in presence of 1 mM GSH (A, B) and 100 μM Hcy (C, D) under excitation at 580 nm in PBS (20 mM, 5% methanol, pH = 7.4).

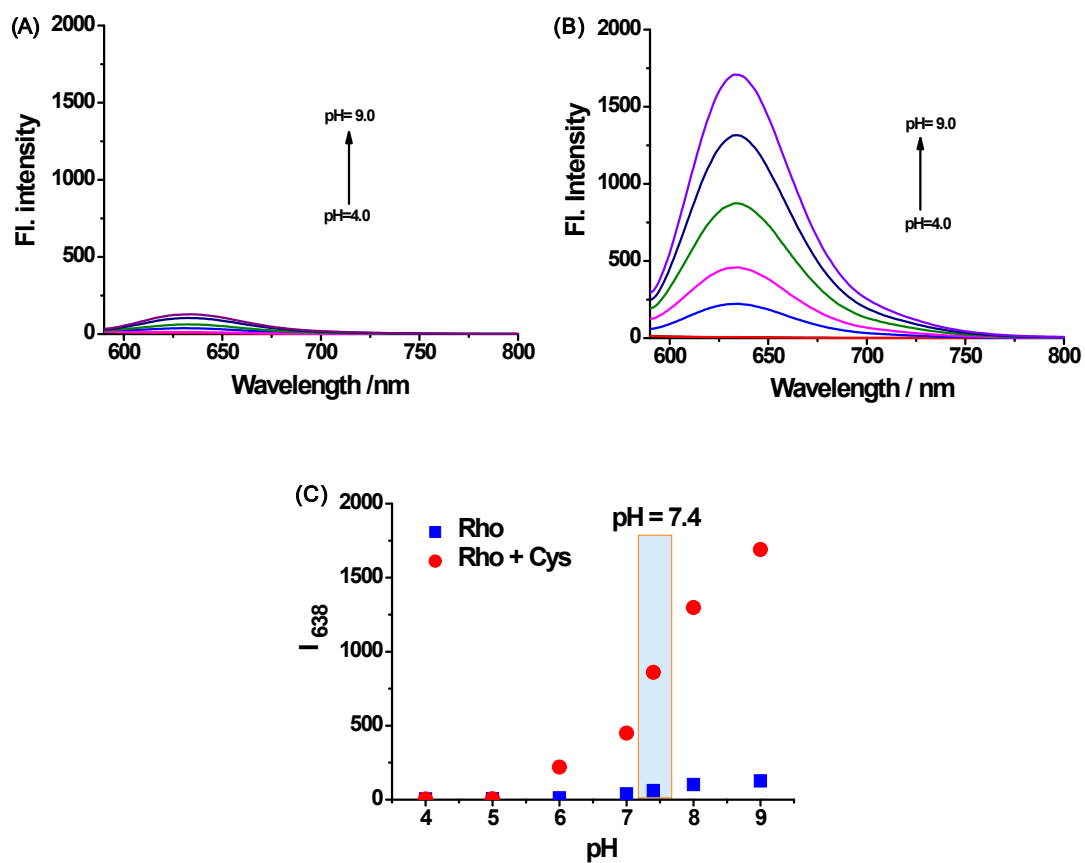


Fig. S6 (A) Fluorescence spectra of 5 μM RCys at various pH. (B) Fluorescence spectra of 5 μM RCys in presence of 100 μM Cys at various pH. (C) Fluorescence intensity at 638 nm of 5 μM RCys in absence and presence of 100 μM Cys at various pH. $\lambda_{\text{ex}} = 580$ nm.

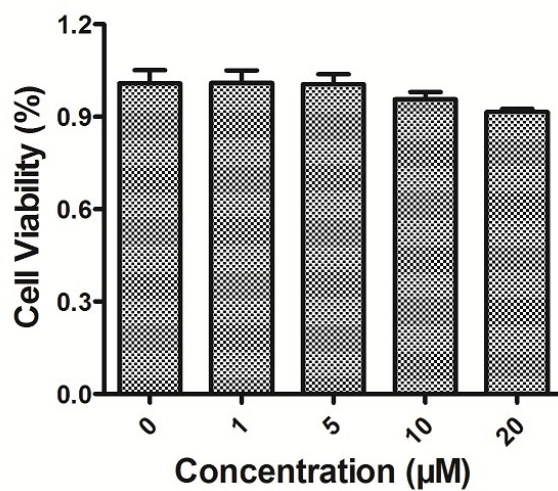


Fig. S7 Survivability of the HeLa cells after treatment with various concentrations of RCys.

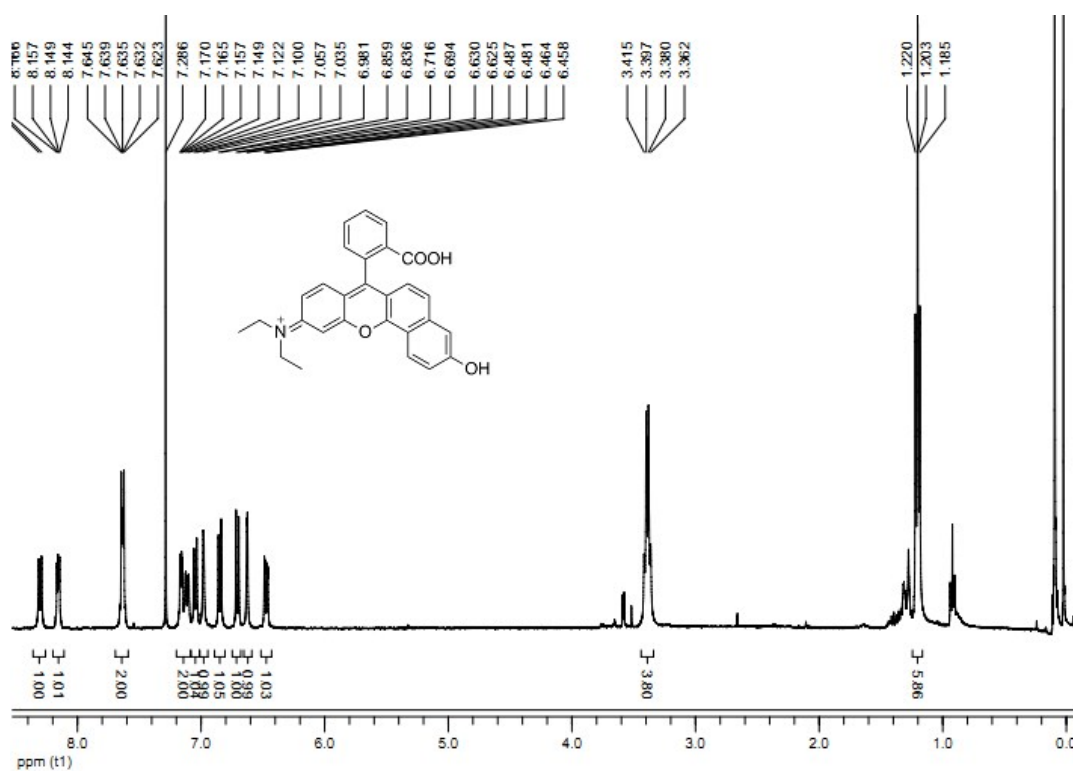


Fig. S8 ^1H NMR data (CDCl_3) of Rho

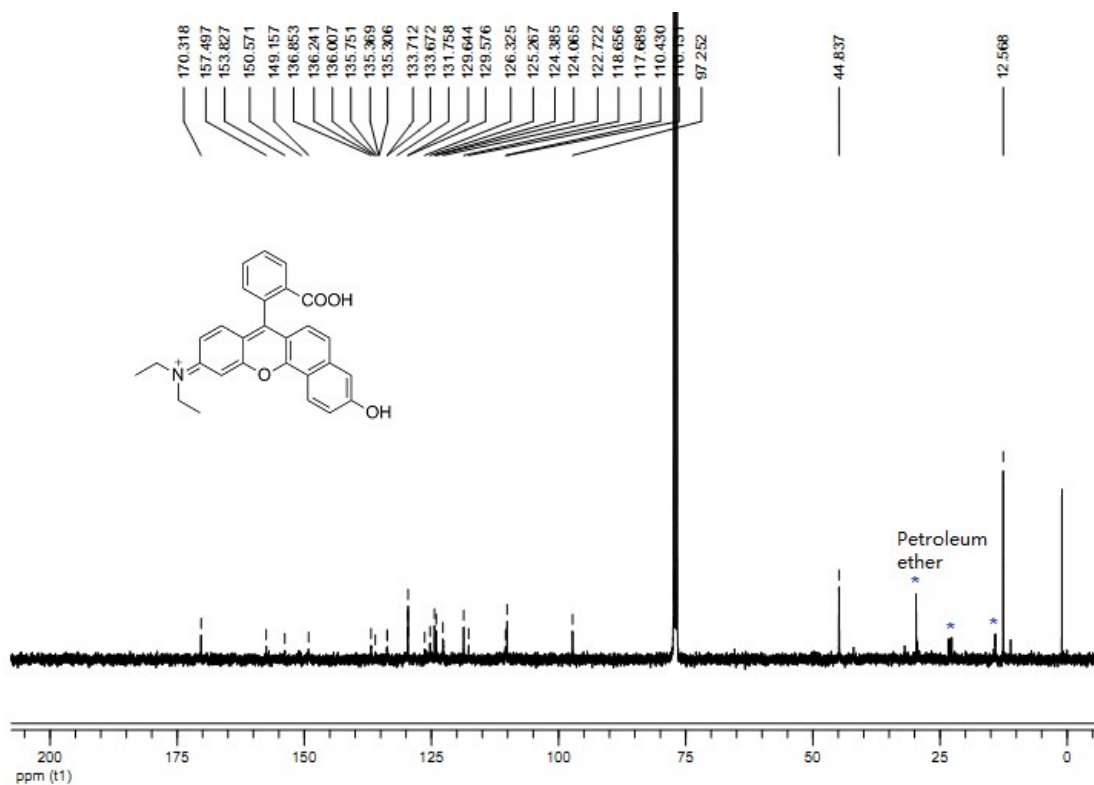


Fig. S9 ^{13}C NMR data (CDCl_3) of Rho

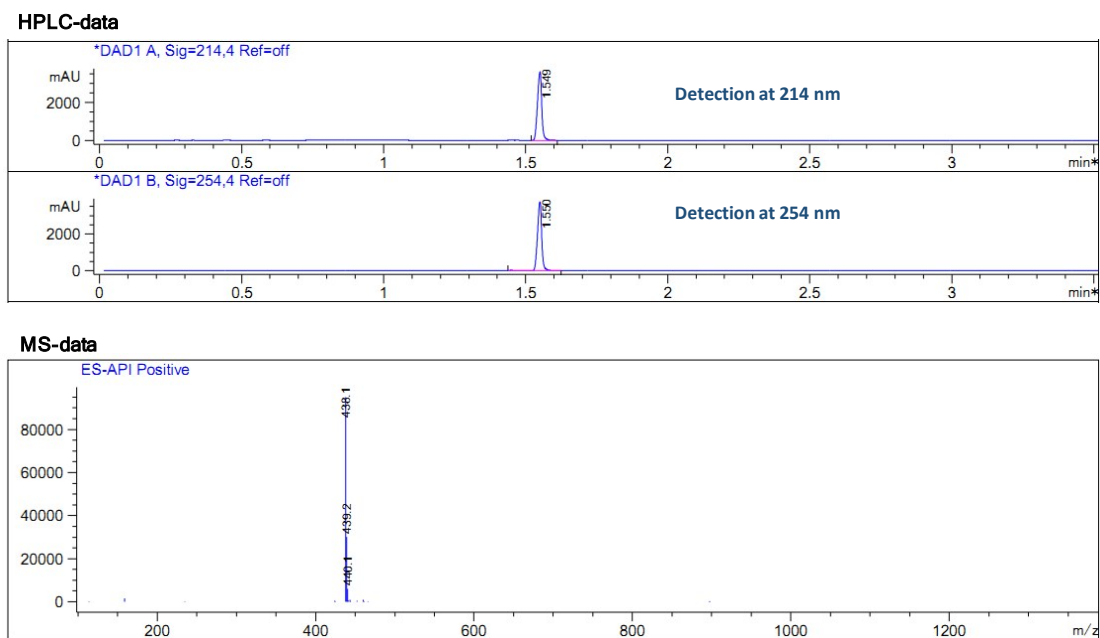


Fig. S10 HPLC-MS data of Rho

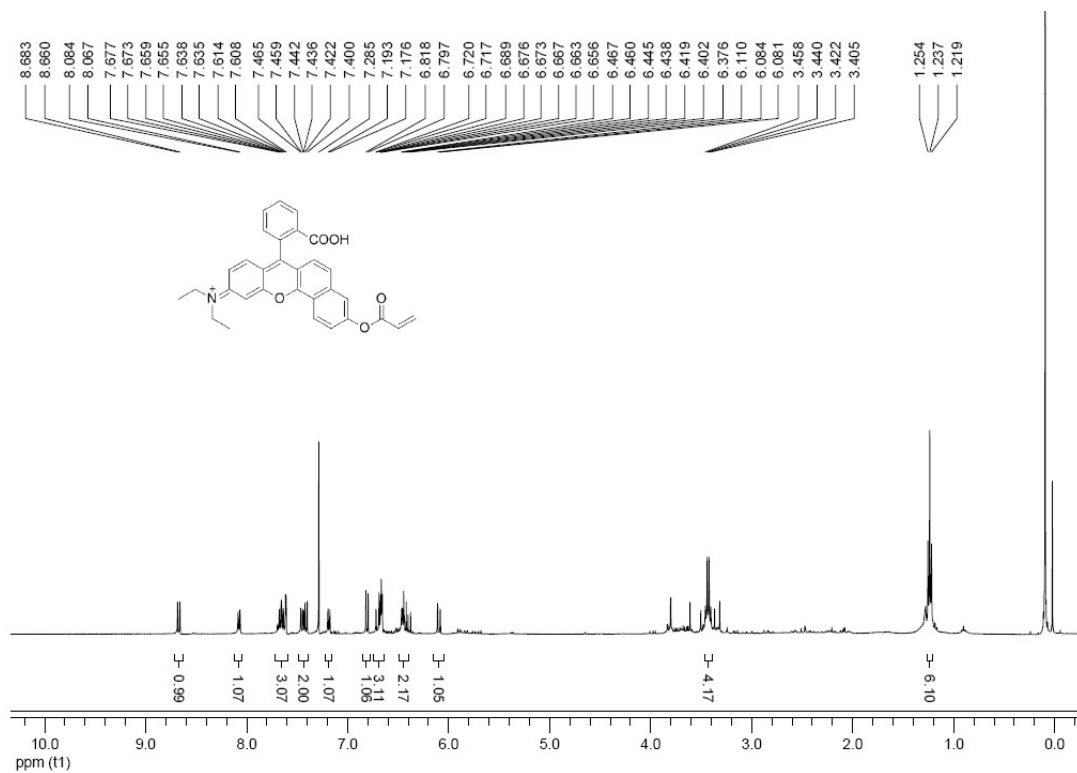


Fig. S11 ¹H NMR data (CDCl₃) of RCys

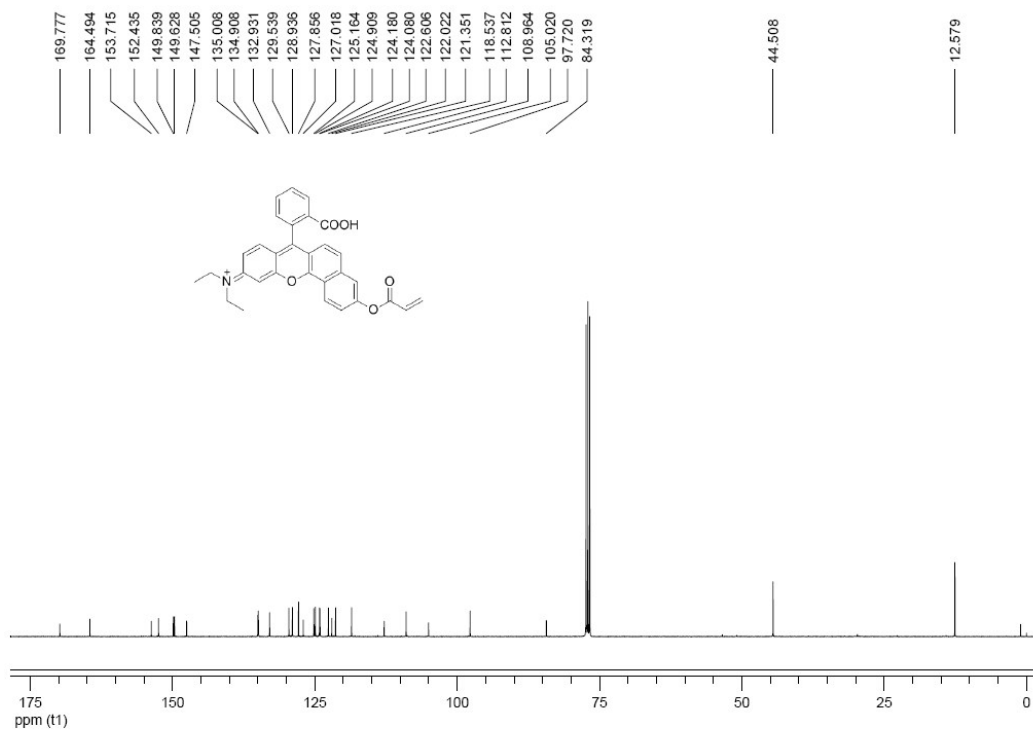
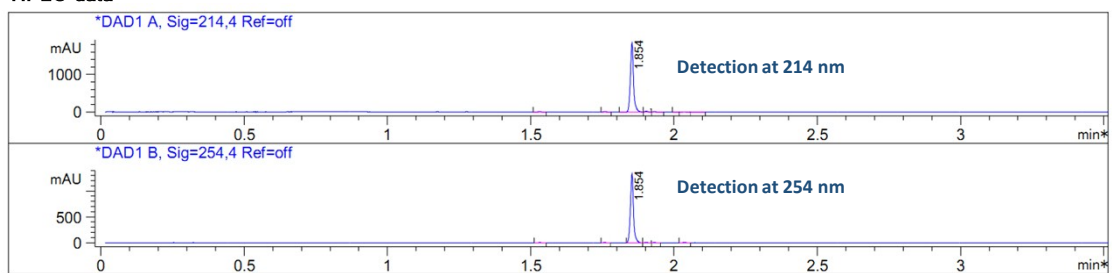


Fig. S12 ¹³C NMR data (CDCl₃) of RCys

HPLC-data



MS-data

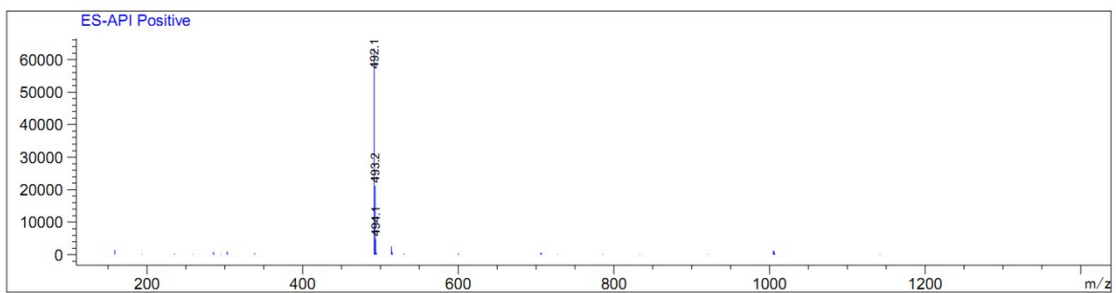


Fig. S13 HPLC-MS data of RCys.