

Supporting Information

Azo based colorimetric probe for detection of cysteine and lysine amino acids and its real application in human blood plasma

Syed S. Razi, Rashid Ali, Priyanka Srivastava, Mohammad Shahid and Arvind Misra*

Department of Chemistry, Faculty of Science, Banaras Hindu University,
Varanasi – 221005. INDIA.

Corresponding author: e-mail: arvindmisra2003@yahoo.com; amisra@bhu.ac.in

Tel: +91-542-6702503; Fax: +91-0542-2368127, 2368175.

Figure S1: ^1H NMR spectra of compound **3a** in CDCl_3

Figure S2: ^1H NMR spectra of compound **3b** in CDCl_3

Figure S3: ^{13}C spectra of compound **3a** in CDCl_3

Figure S4: ^{13}C spectra of compound **3b** in CDCl_3

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Figure S6: ESI-MS Mass spectrum of **3b**.

Figure S7: Cis-trans isomerism for receptors (a) **3a** and (b) **3b** in DMF.

Figure S8: Change in UV-Visible spectra and Bar diagram for **3a** and **3b** (10 μm) with different amino acids (50 equiv) in HEPES buffer (DMF/ H_2O 9:1 v/v, pH 7.4).

Figure S9: Change in absorption spectra of **3a** and **3b** (10 μm) with thiol containing compound (Cys, GSH, Mercaptoethanol, 50 equiv) in HEPES buffer (DMF/ H_2O 9:1 v/v, pH 7.4).

Figure S10: Interference studies of **3a** and **3b** (10 μm) with thiols containing compounds (Cys, GSH, Mercaptoethanol, 50 equiv) in HEPES buffer (DMF/ H_2O 9:1 v/v, pH 7.4).

Figure S11: Job's plot for interactions of **3a/3b** with Cys.

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Figure S13: Stacked FT-IR spectra of **3a** and **3a-Cys**.

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Figure S17: ^1H NMR titration spectral changes of compound **3a** upon addition of Cysteine (0 equiv.) in $\text{DMSO-}d_6$ at 25 $^\circ\text{C}$.

Figure S18: ^1H NMR titration spectral changes of compound **3a** upon addition of Cysteine (10 equiv.) in $\text{DMSO-}d_6$ at 25 $^\circ\text{C}$.

Figure S19: ^1H NMR titration spectral changes of compound **3a** upon addition of Cysteine (30 equiv.) in $\text{DMSO-}d_6$ at 25 $^\circ\text{C}$.

Figure S20: ^1H NMR spectral changes of compound **3a** with lysine in CDCl_3 at 25 $^\circ\text{C}$.

Figure S21: ESI-MS Mass spectrum of **3a-Cys**.

Figure S22: ESI-MS Mass spectrum of **3a-Lys**.

Figure S23: ESI-MS Mass spectrum of **3b-Cys**.

Figure S24: ESI-MS Mass spectrum of **3b-Lys**.

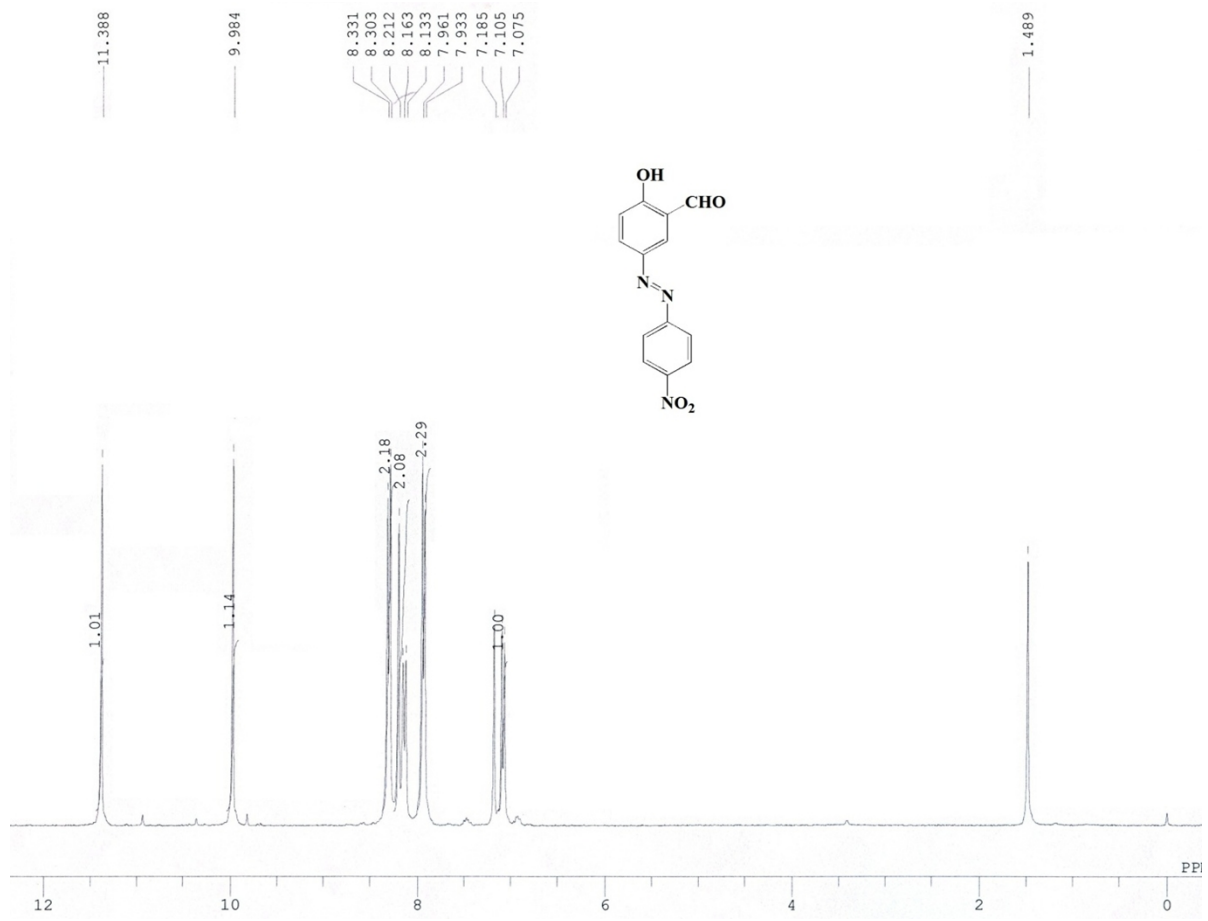


Figure S1: ^1H NMR spectra of compound **3a** in CDCl_3 .

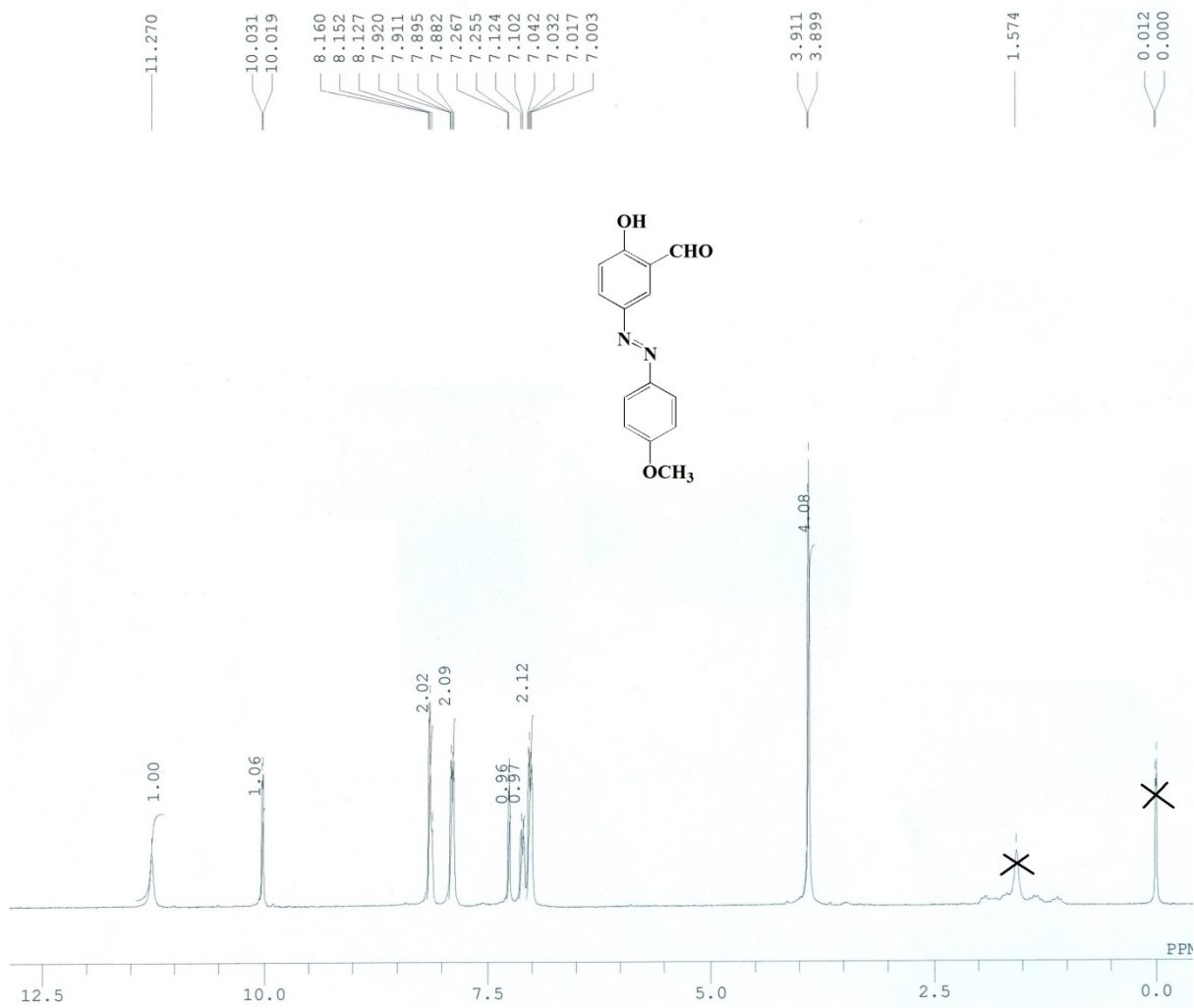


Figure S2: ¹H NMR spectra of compound **3b** in CDCl₃.

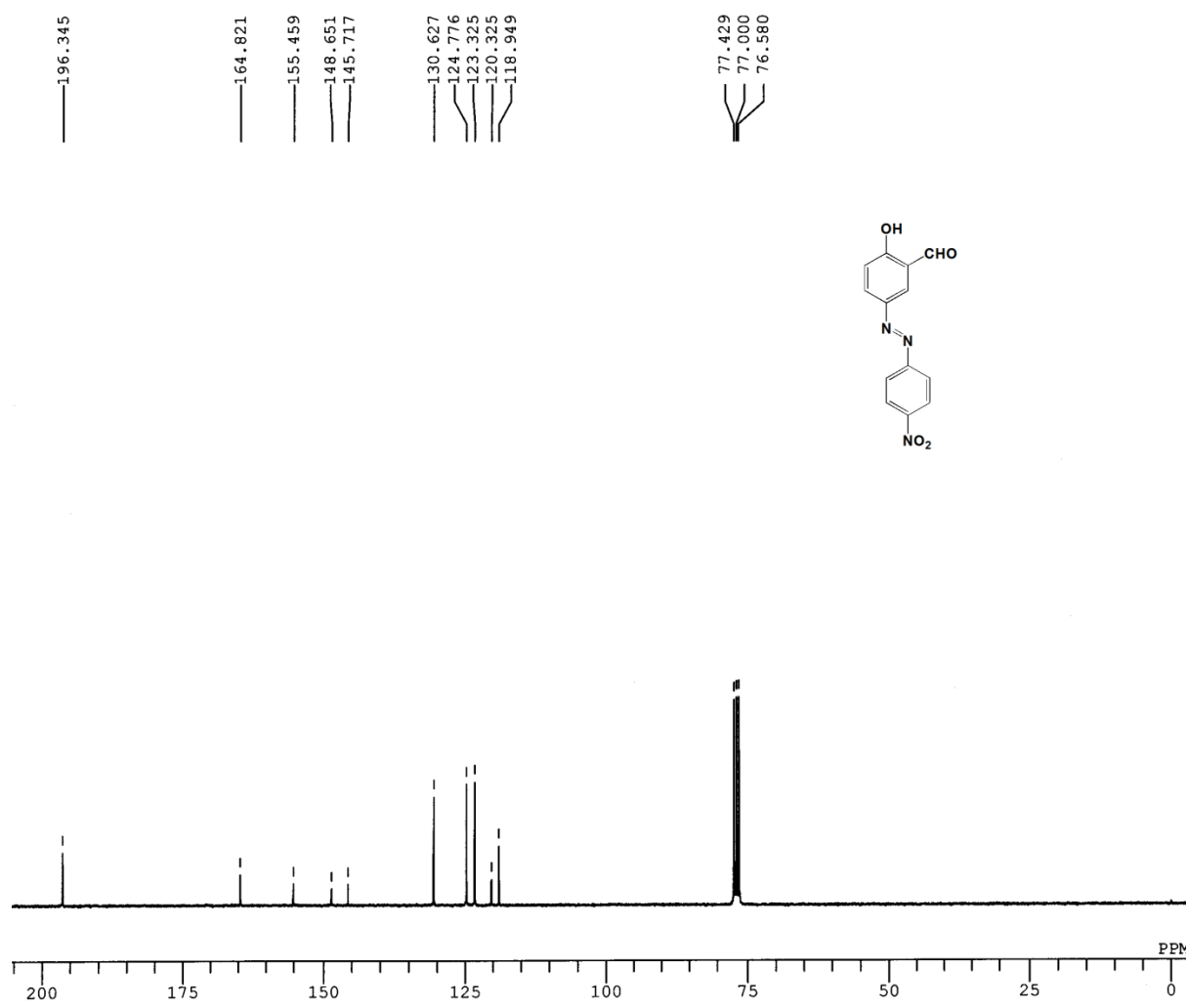


Figure S3: ^{13}C spectra of compound **3a** in CDCl_3 .

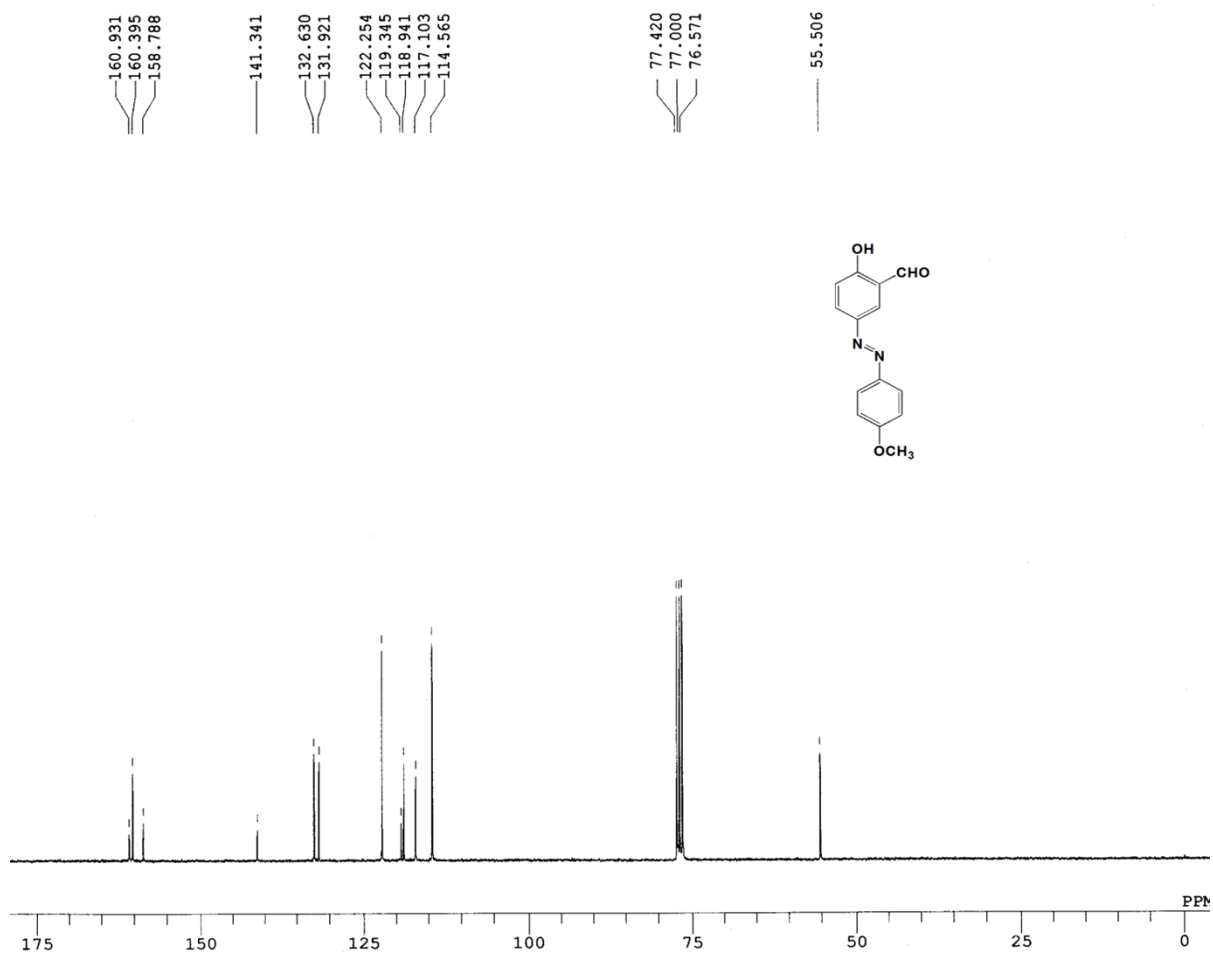


Figure S4: ^{13}C spectra of compound **3b** in CDCl_3 .

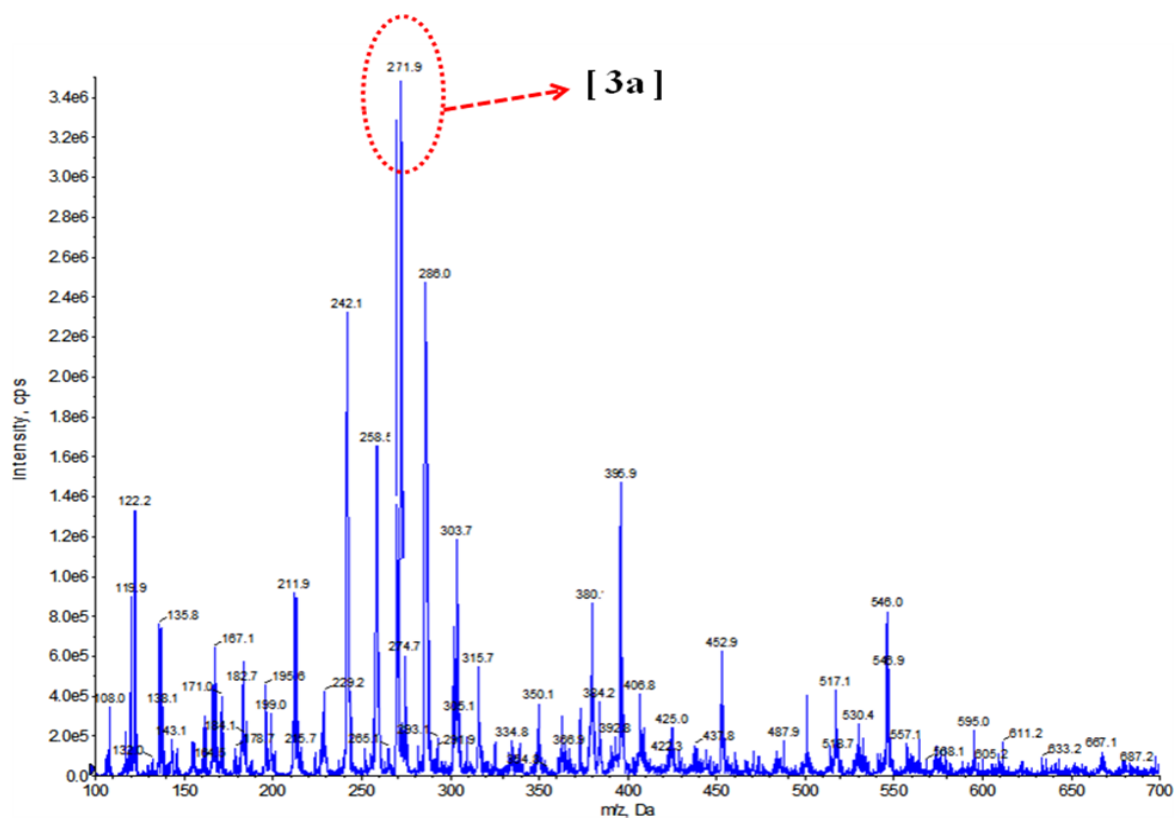


Figure S5: ESI-MS Mass spectrum of 3a.

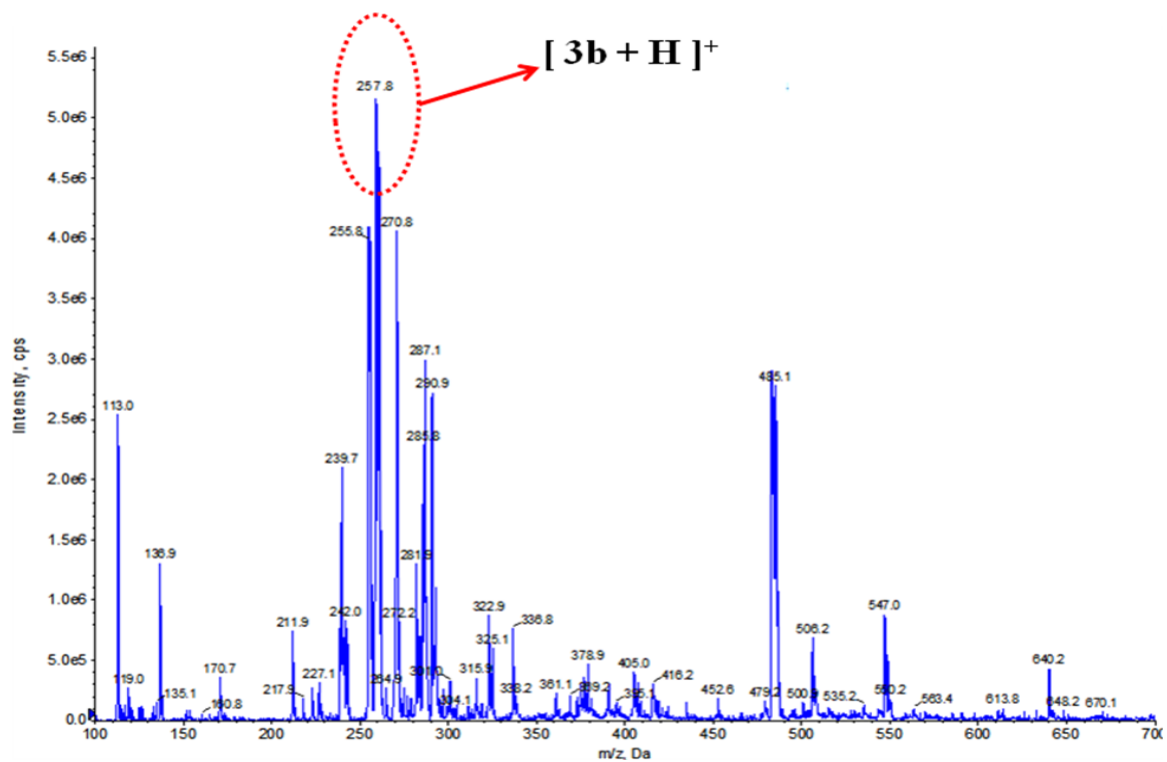


Figure S6: ESI-MS Mass spectrum of **3b**.

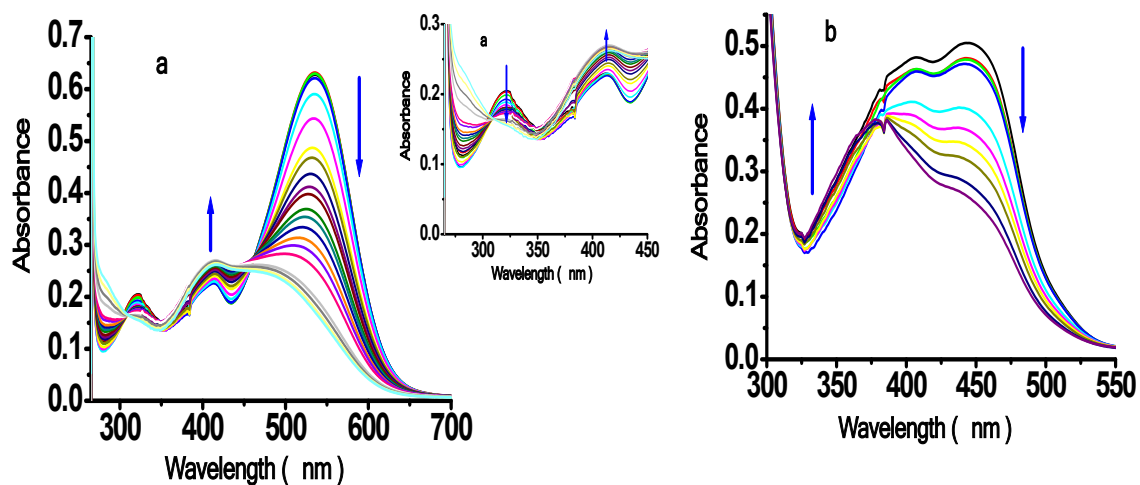


Figure S7: Cis-trans isomerism for receptors (a) **3a** and (b) **3b** in DMF.

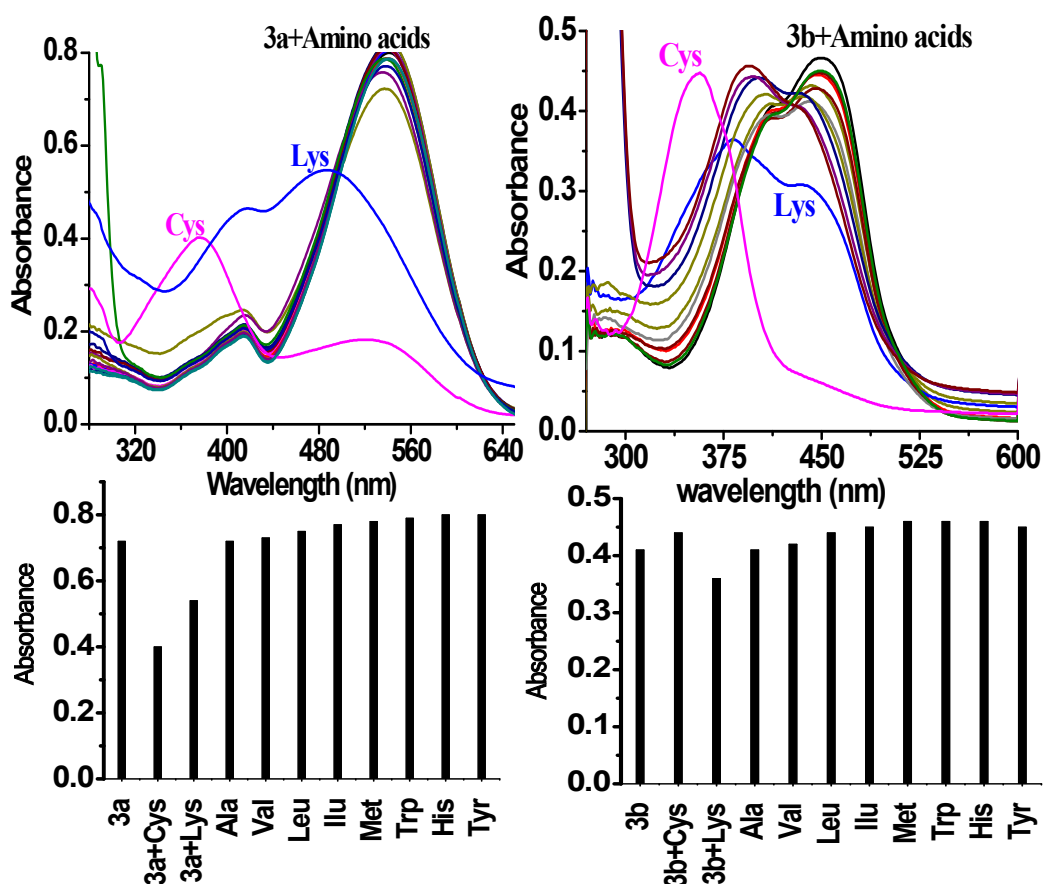


Figure S8: Change in UV-Visible spectra and Bar diagram for **3a** and **3b** (10 μ m) with different amino acids (50 equiv) in HEPES buffer (DMF/H₂O 9:1 v/v, pH 7.4).

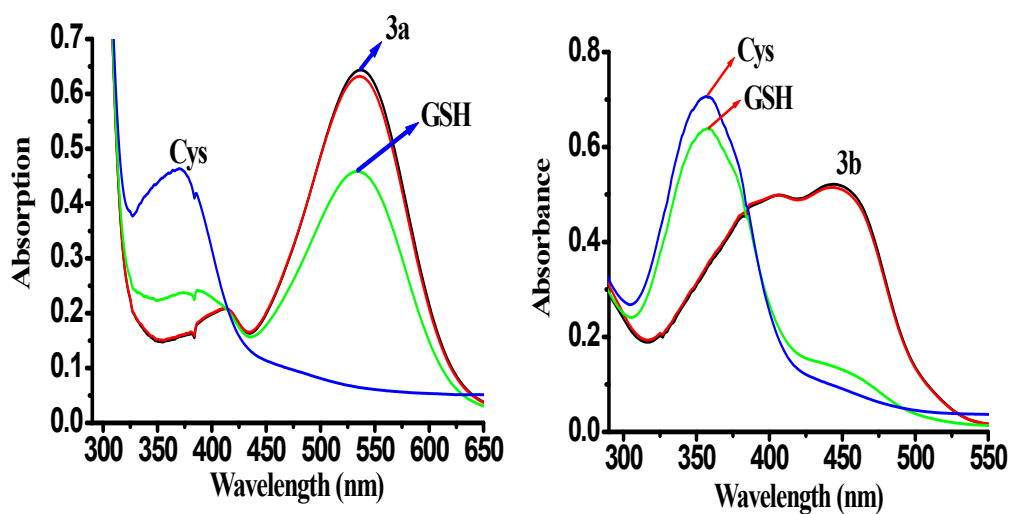


Figure S9: Change in absorption spectra of **3a** and **3b** (10 μm) with thiol containing compound (Cys, GSH, Mercaptoethanol, 50 equiv) in HEPES buffer (DMF/H₂O 9:1 v/v, pH 7.4).

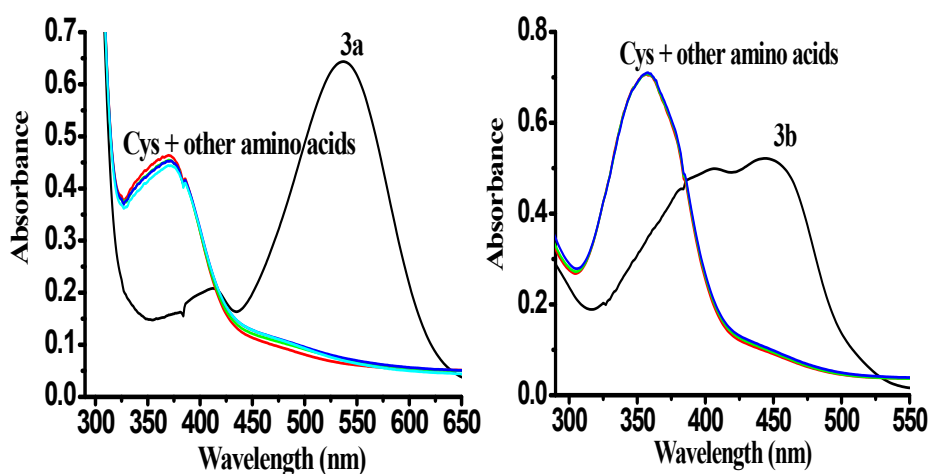


Figure S10: Interference studies of **3a** and **3b** (10 μm) with thiols containing compounds (Cys, GSH, Mercaptoethanol, 50 equiv) in HEPES buffer (DMF/H₂O 9:1 v/v, pH 7.4).

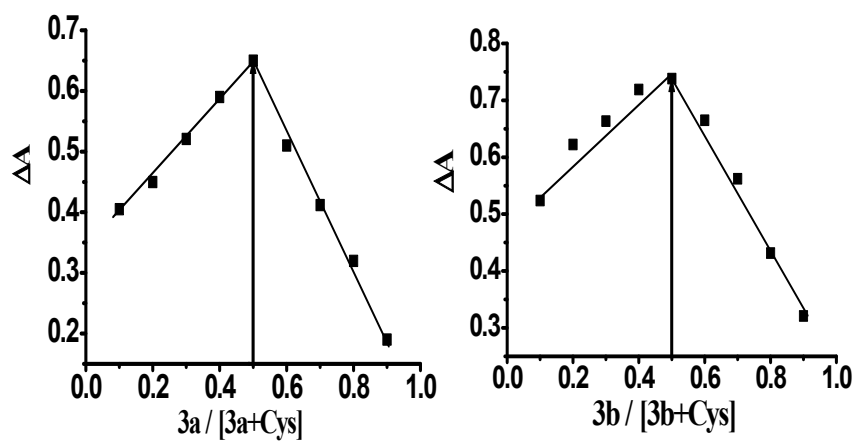


Figure S11: Job's plot for interactions of **3a/3b** with Cys.

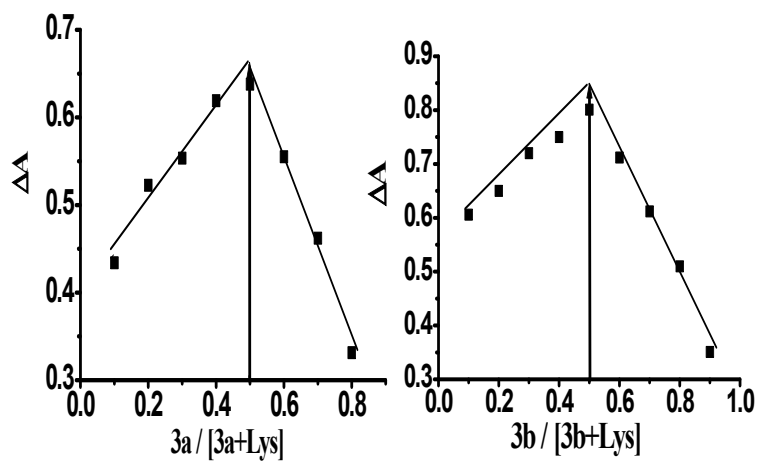


Figure S12: Job's plot for interactions of **3a/3b** with Lys.

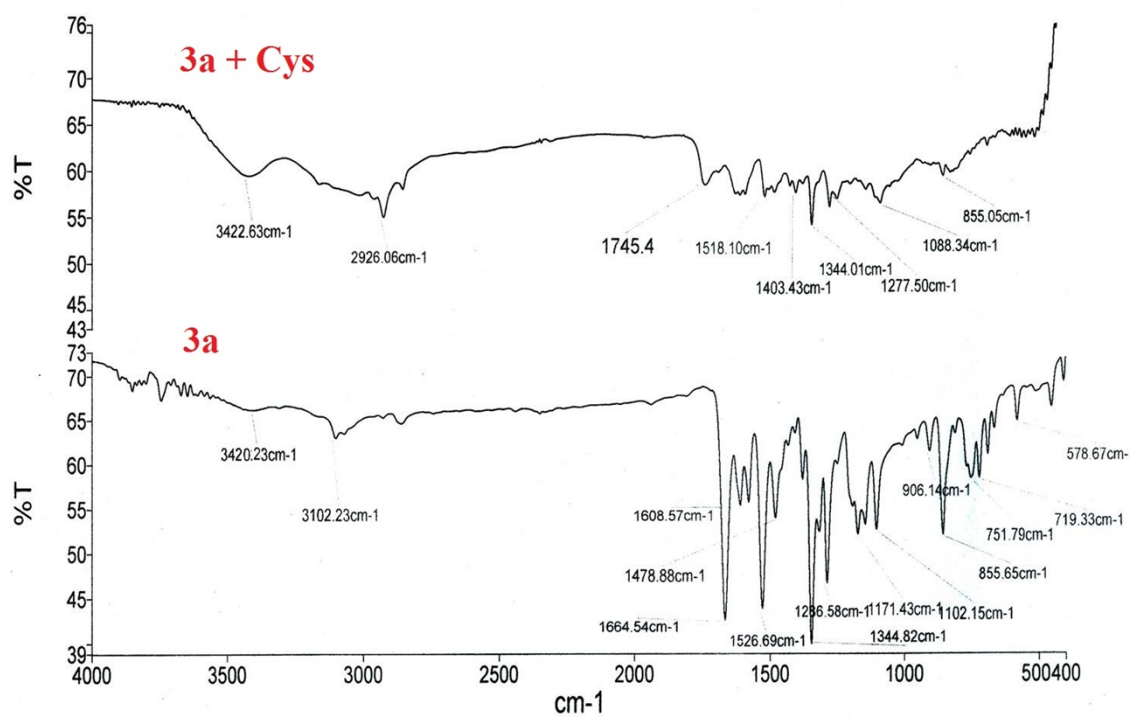


Figure S13: Stacked FT-IR spectra of **3a** and **3a-Cys**.

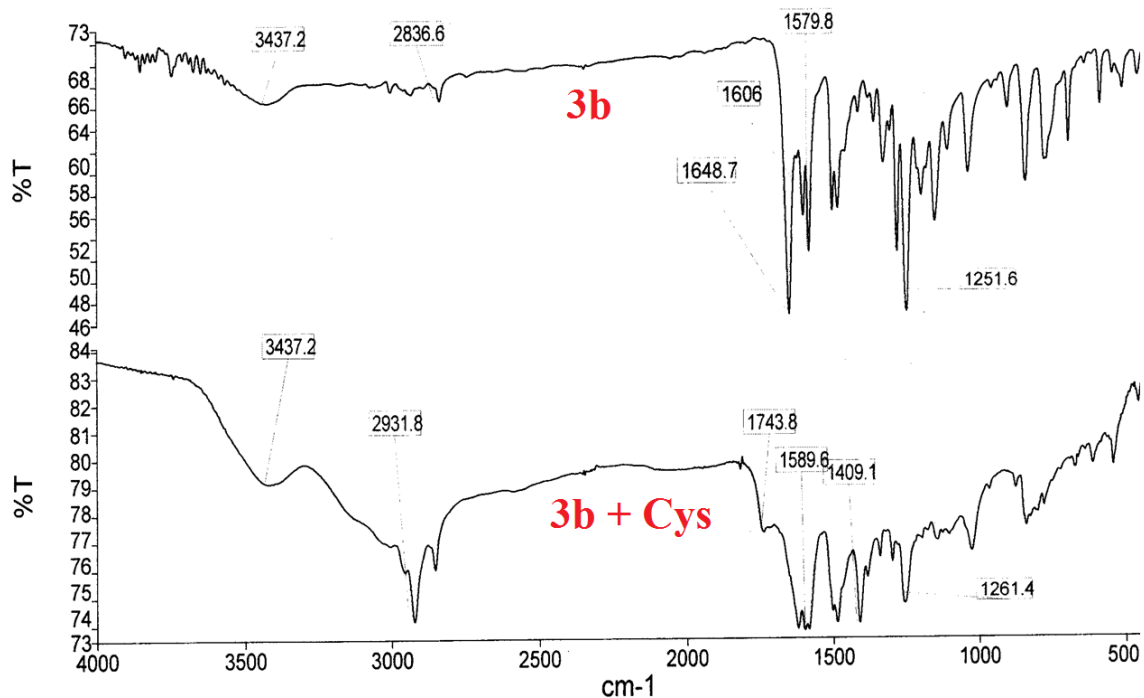


Figure S14: Stacked FT-IR spectra of **3b** and **3b-Cys**.

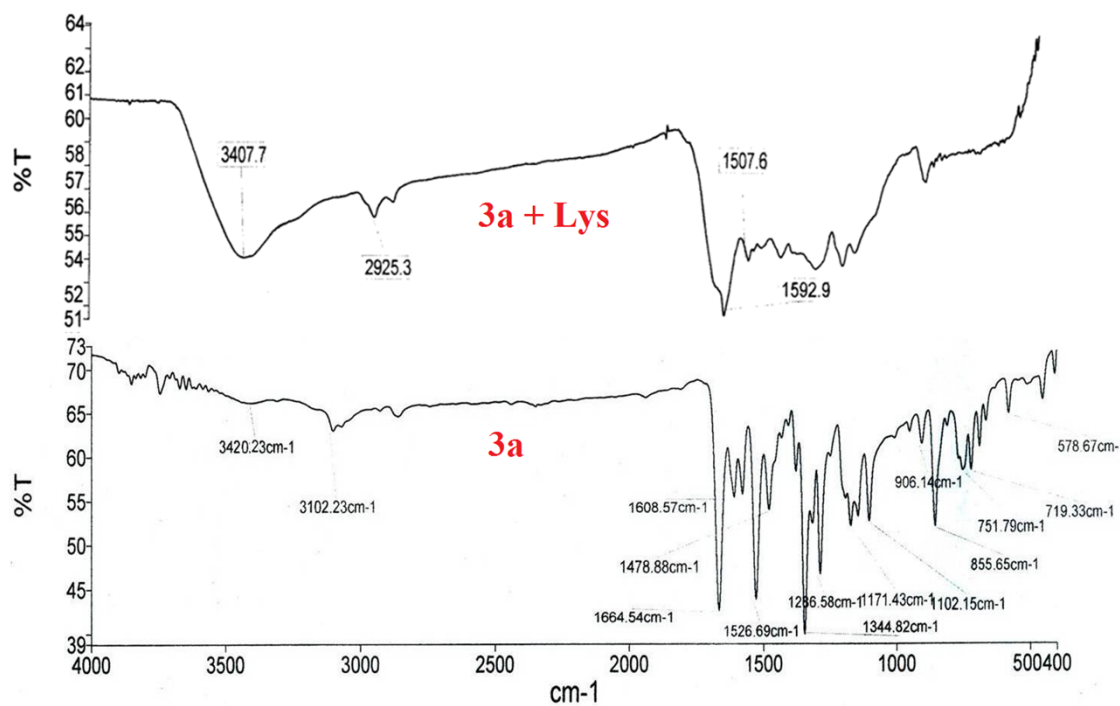


Figure S15: Stacked FT-IR spectra of **3a** and **3a-Lys**.

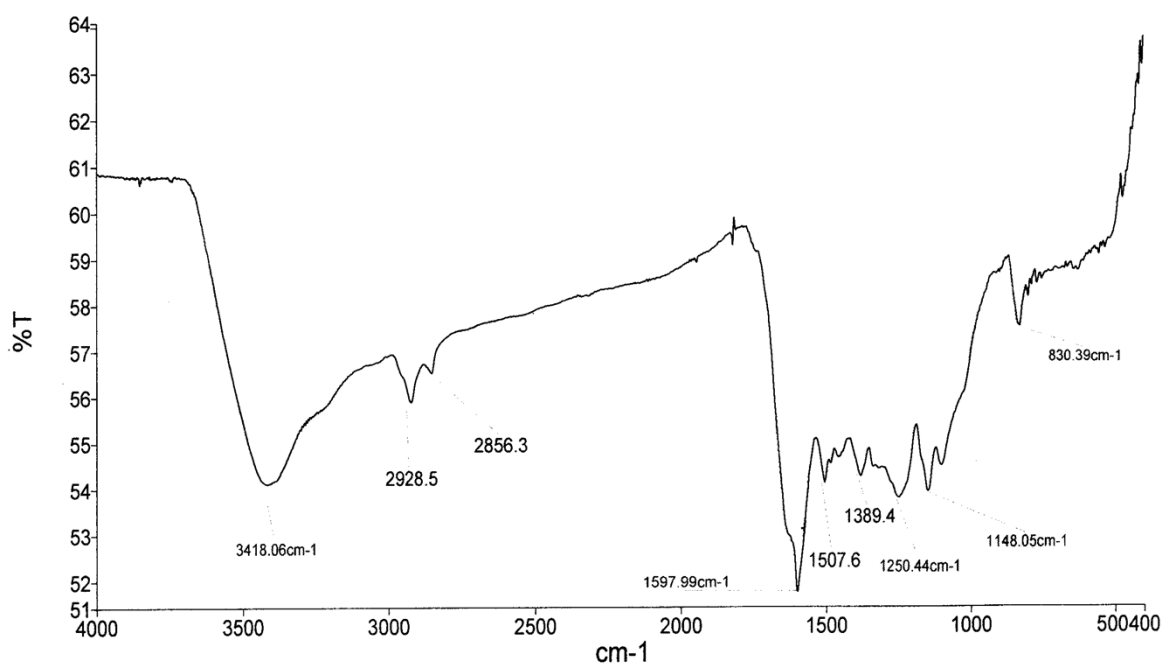


Figure S16: FT-IR spectra of **3b-Lys**.

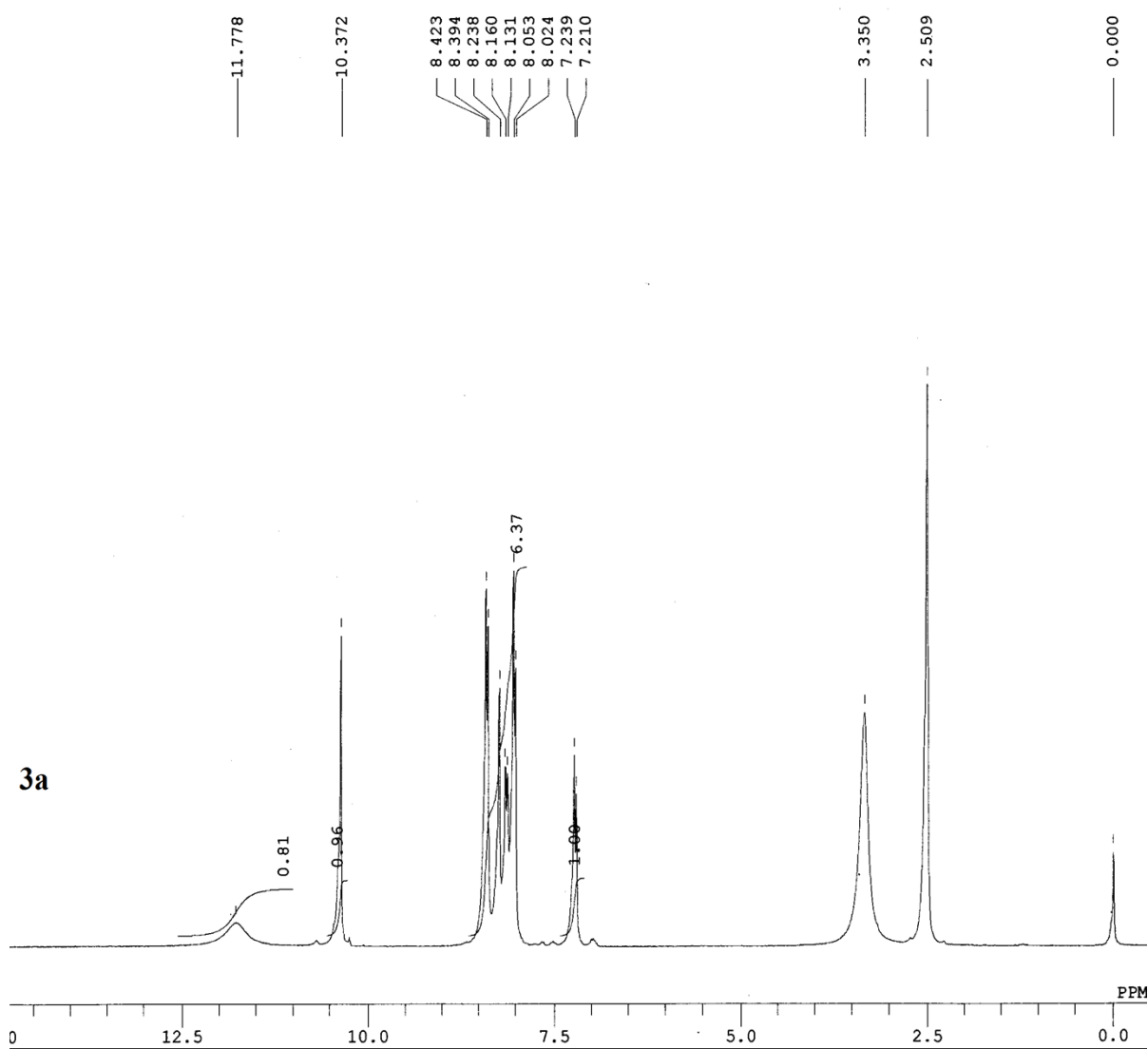


Figure S17: ^1H NMR titration spectral changes of compound **3a** upon addition of Cysteine (0 equiv.) in $\text{DMSO-}d_6$ at 25 °C.

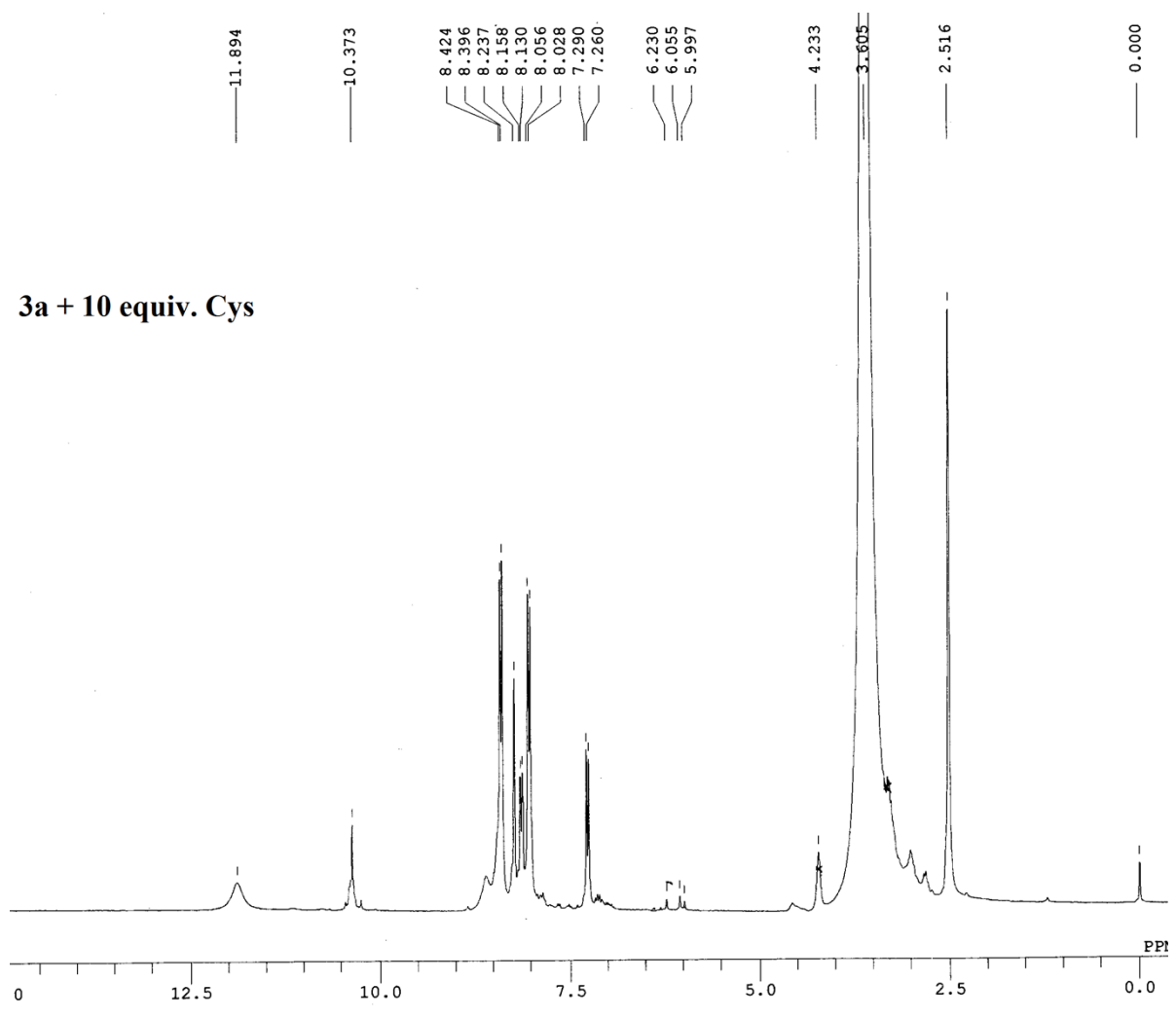


Figure S18: ^1H NMR titration spectral changes of compound **3a** upon addition of Cysteine (10 equiv.) in $\text{DMSO-}d_6$ at 25 °C.

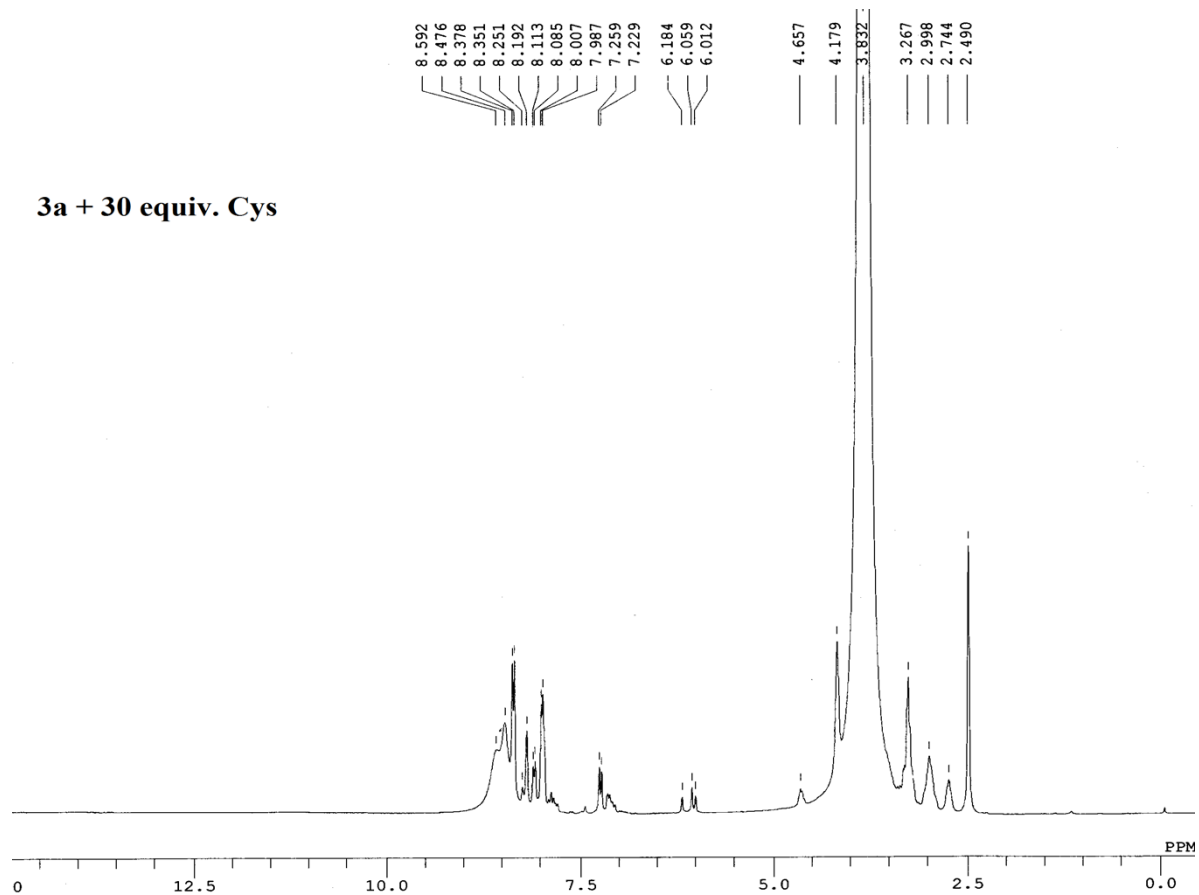


Figure S19: ^1H NMR titration spectral changes of compound **3a** upon addition of Cysteine (30 equiv.) in $\text{DMSO-}d_6$ at 25 °C.

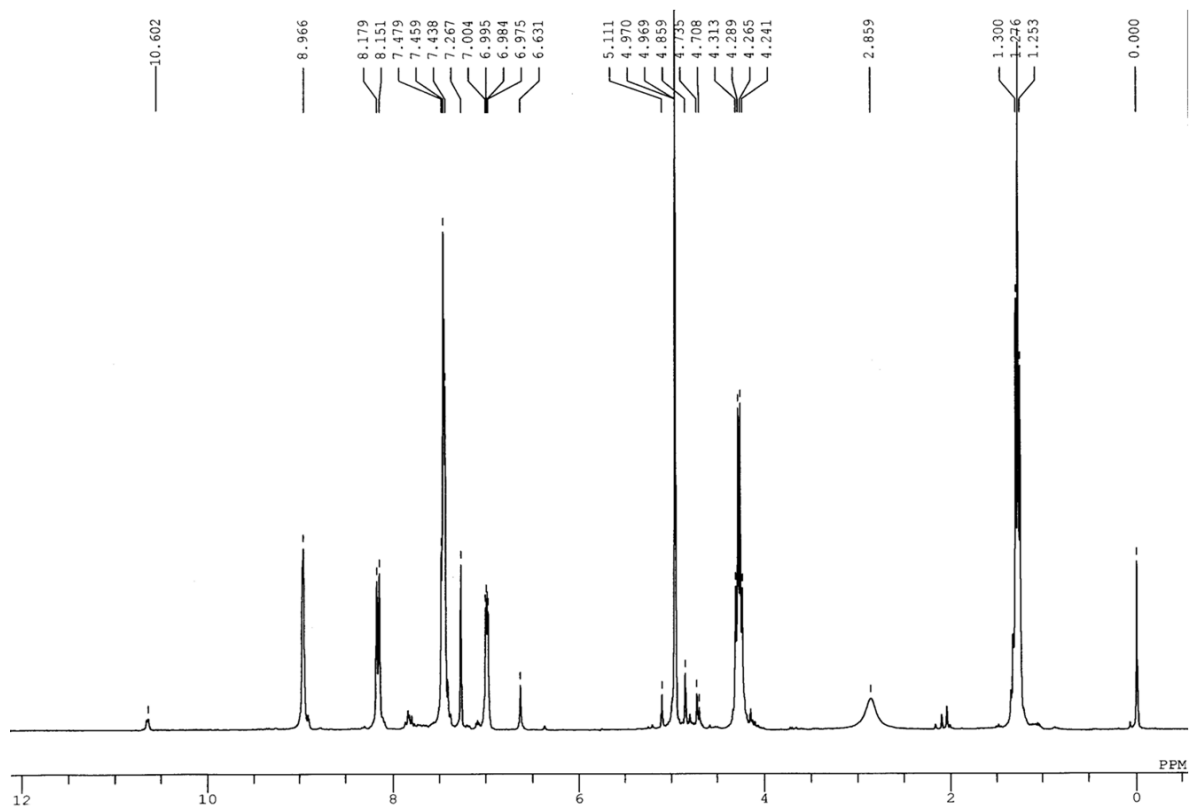


Figure S20: ^1H NMR spectral changes of compound **3a** with lysine in CDCl_3 at 25 °C.

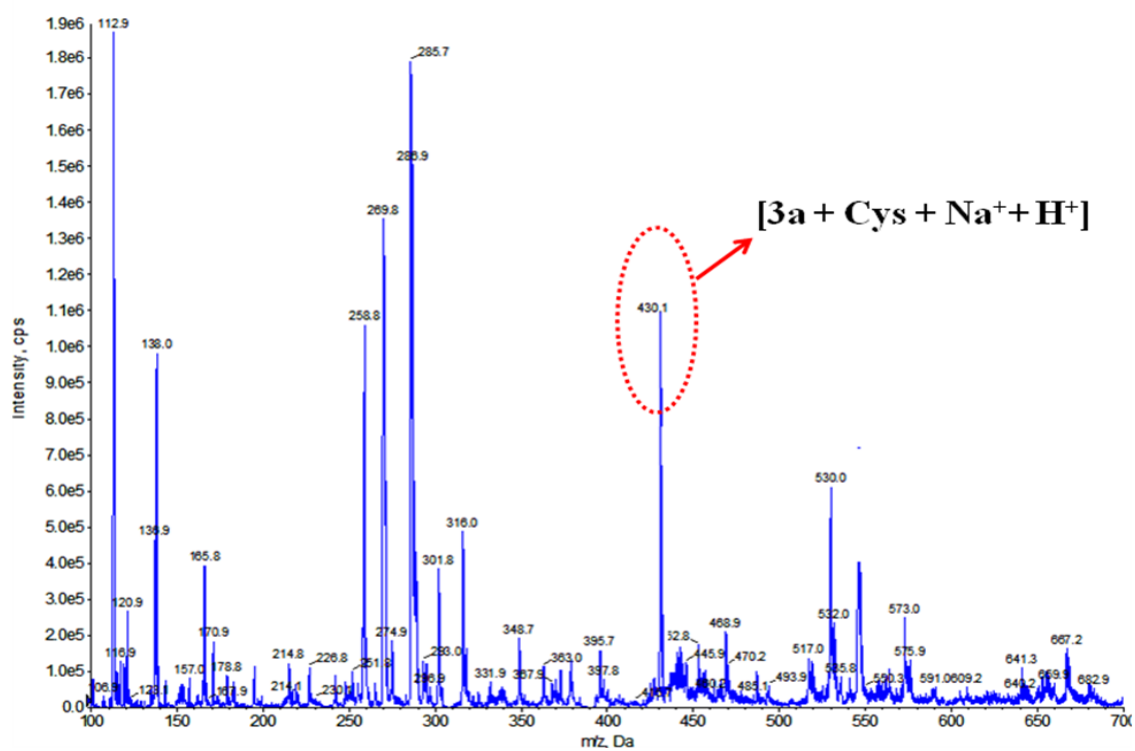


Figure S21: ESI-MS Mass spectrum of **3a-Cys**.

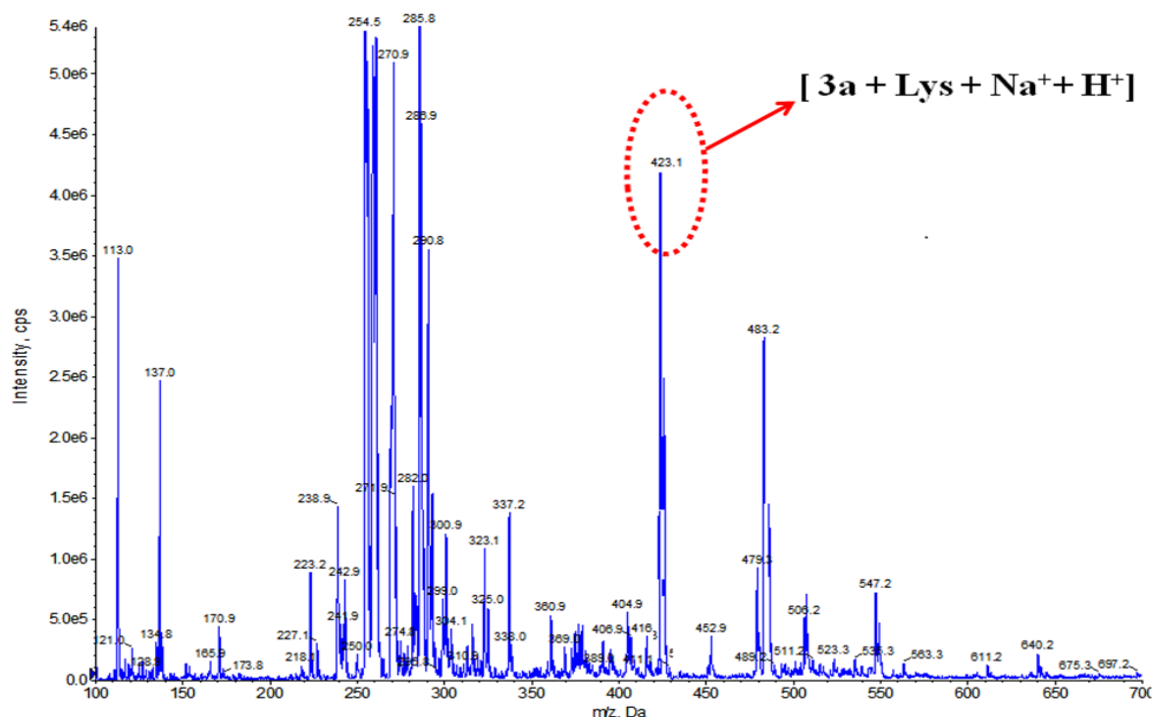


Figure S22: ESI-MS Mass spectrum of 3a-Lys.

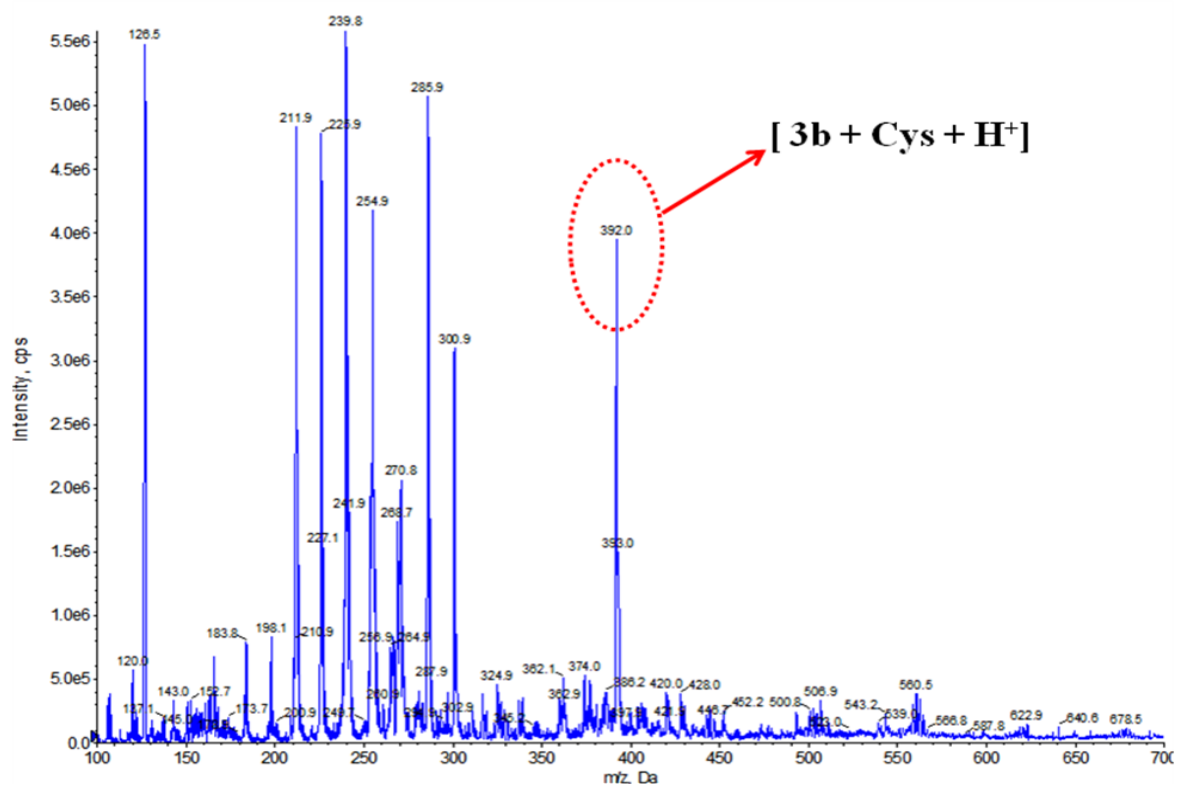


Figure S23: ESI-MS Mass spectrum of 3b-Cys.

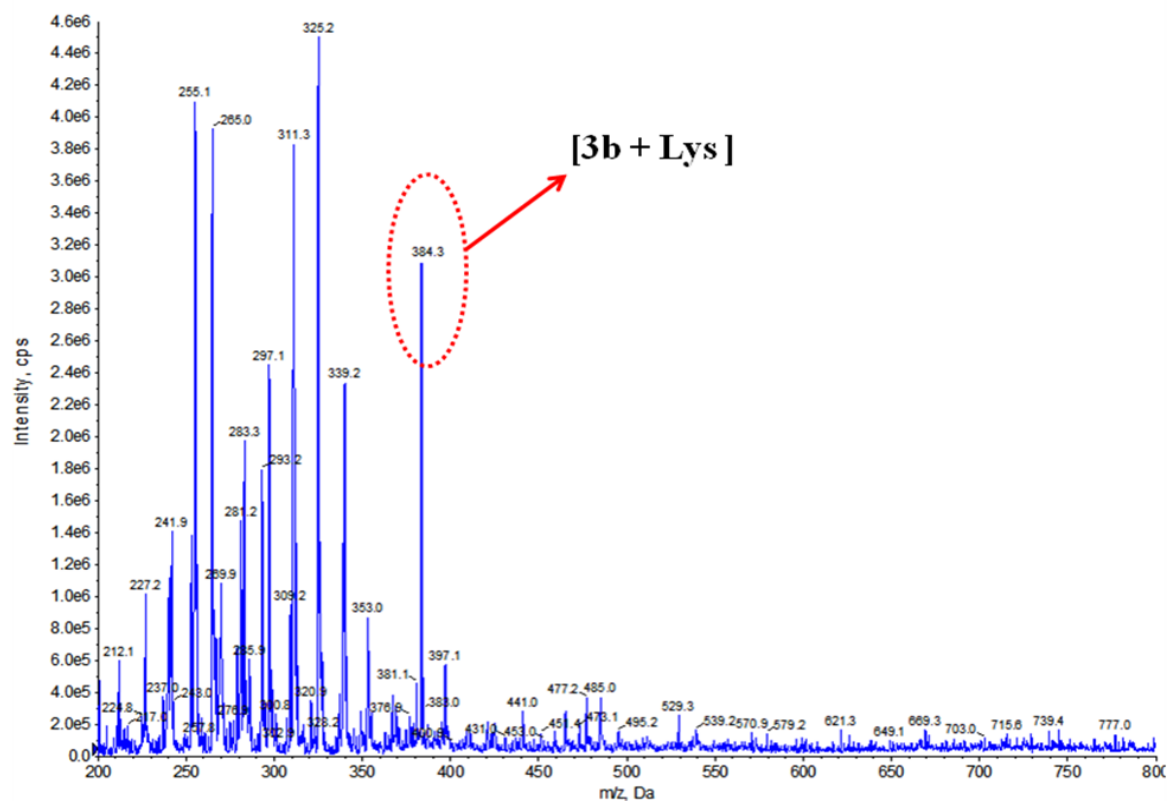


Figure S24: ESI-MS Mass spectrum of **3b-Lys**.