

Supplementary data for

**Naphthalimide-based fluorescence “turn-on” chemosensor for
highly selective detection of carbon monoxide: imaging applications
in live cell**

Biswajit Das,^a Somenath Lohar,^b Ayan Patra,^b Ejaj Ahmmed,^b Sushil Mondal,^c

Jatindra Nath Bhakta,^c Koushik Dhara^{d,*} and Pabitra Chattopadhyay^b

^a Department of Chemistry, Sreegopal Banerjee College, Bagati, Magra, Hooghly
712148, West Bengal, India

^b Department of Chemistry, The University of Burdwan, Golapbag, Burdwan 713104,
West Bengal, India

^c Department of Ecological Studies & International Center for Ecological Engineering
(ICEE), University of Kalyani, Kalyani, Nadia, West Bengal, India

^d Department of Chemistry, Sambhu Nath College, Labpur, Birbhum 731303, West
Bengal, India

* Corresponding author's address: Department of Chemistry, Sambhu Nath College,
Labpur, Birbhum 731303, West Bengal, INDIA; Email: dharachem@gmail.com (Dr.
Koushik Dhara), Mob: +91-9433125327

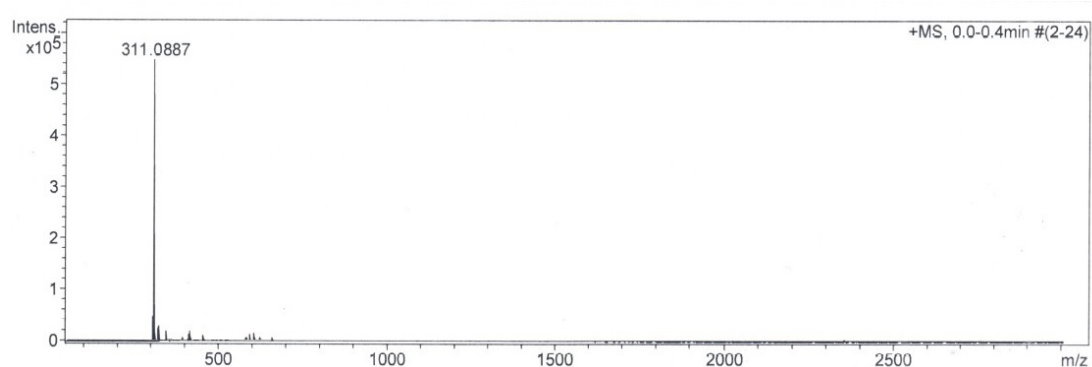


Fig. S1 HRMS analysis of the final product, COFP-amine. The final product, COFP-amine was identified during the reaction of the probe with CO in the reaction buffer. After the completion, the reaction mixture was extracted with DCM and the organic layer was taken for HRMS analysis. The peak found at $m/z = 311.0887$; calculated $m/z = 311.0796$ for $[C_{18}H_{12}N_2O_2+Na^+]^+$.

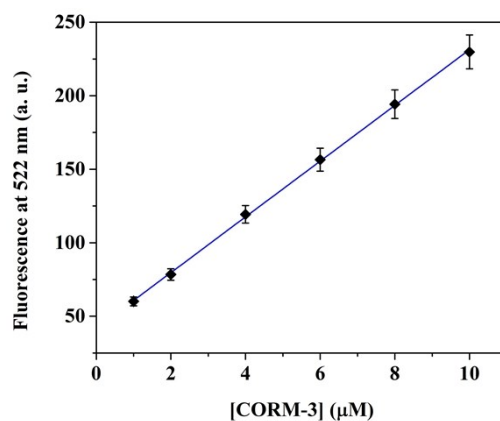


Fig. S2 Plot for the determination of limit of detection (LOD) for CO. The LOD was calculated as 123 nM.

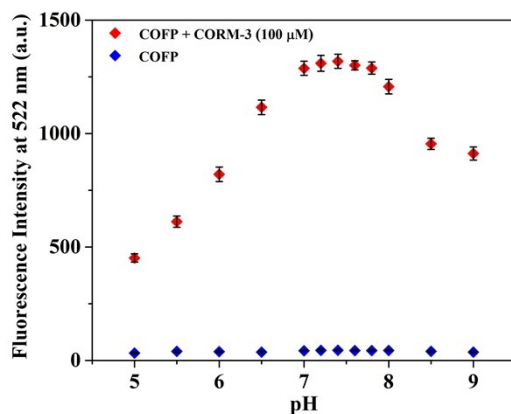


Fig. S3 Fluorescence responses of COFP (10 μM) to CO (CORM-3, 100 μM) in incubated for 45 min in various buffer medium [10 mM HEPES, 2 % DMSO] of pH 5 to 9 at 37 °C (ex: 440 nm).

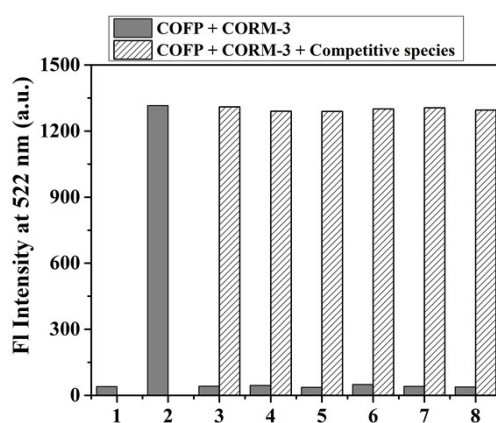


Fig. S4 Fluorescence responses of 10 μM COFP to CO in the reaction buffer [10 mM HEPES, 2 % DMSO] of pH 7.4 at 37 °C with the progress of time in the presence of various species: (1) none, (2) CORM-3 (100 μM), (3) H₂O₂, (4) ^tBuOOH, (5) O₂⁻ (source: KO₂), (6) NaOCl, (7) NO (source: NOCl₃) and (8) H₂S (source: NaHS). [3-8: Con. 100 μM each]

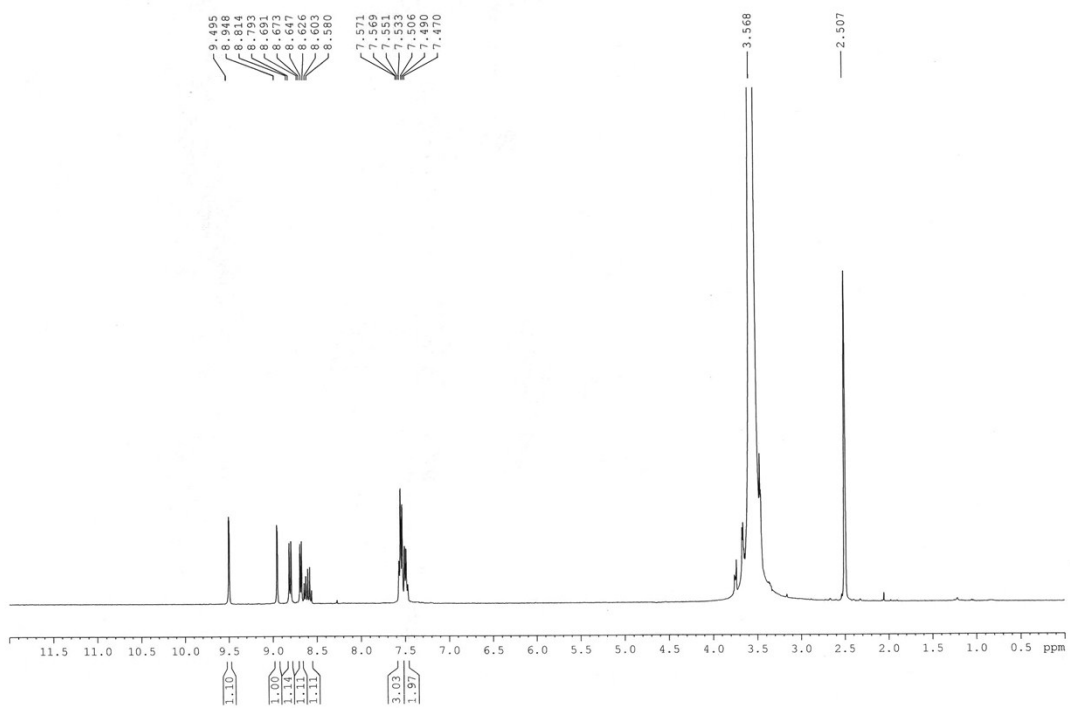


Fig. S5 ^1H NMR of COFP in d_6 -DMSO.

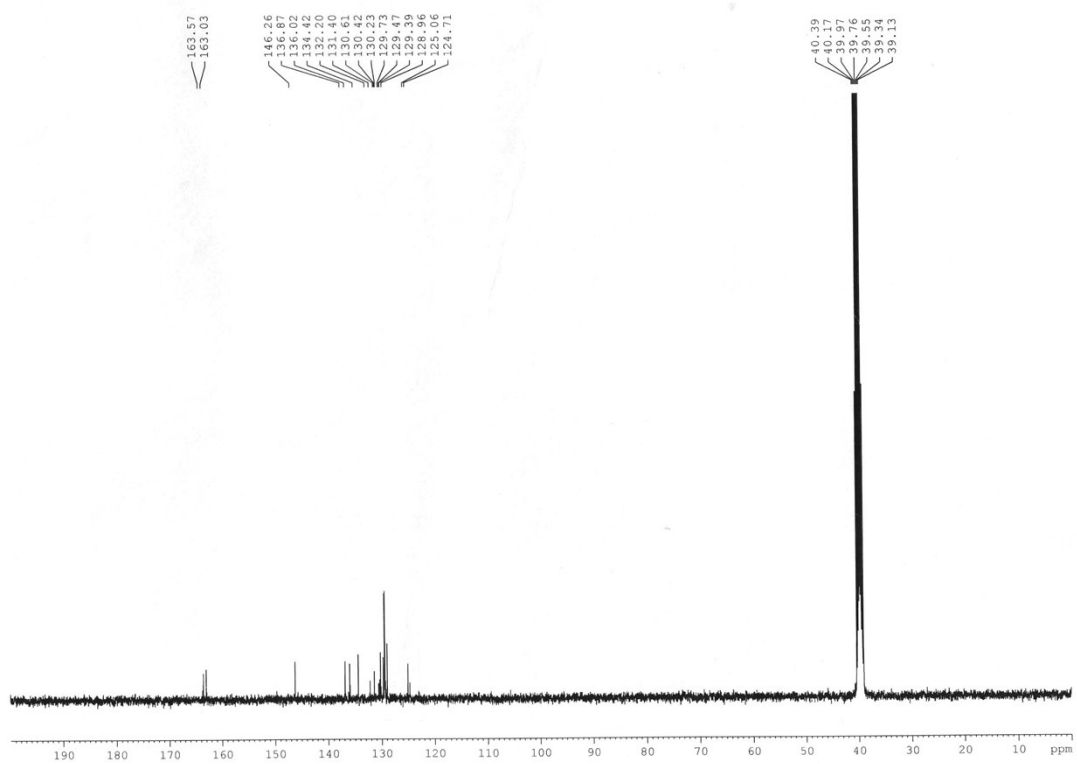


Fig. S6 ^{13}C NMR of COFP in d_6 -DMSO.

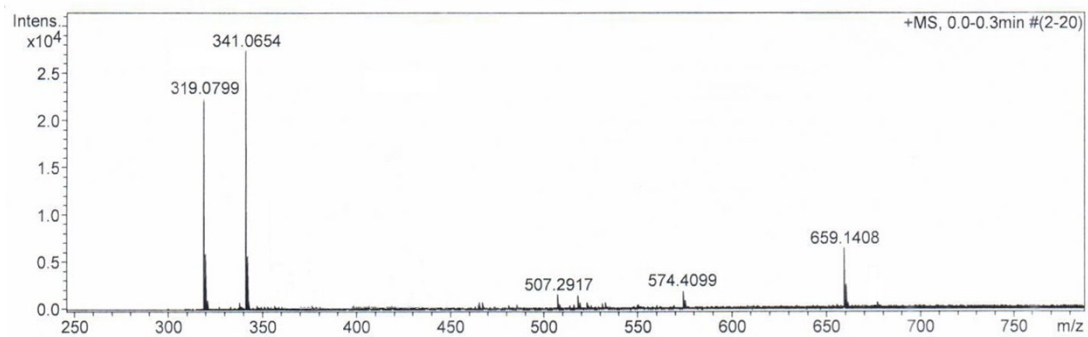


Fig. S7 HRMS data of COFP (m/z) found 319.0799, 341.0654 and 659.1408; Calculated for $[M+H]^+$ 319.0719, $[M+Na]^+$ 341.0538, and $[2M+Na]^+$ 659.1179 respectively where M formulated as $C_{18}H_{10}N_2O_4$, COFP.