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Article

A Naphthalimide–Benzothiazole Conjugate as Colorimetric and Fluorescent Sensor for Selective Trinitrophenol Detection

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Supplementary Information

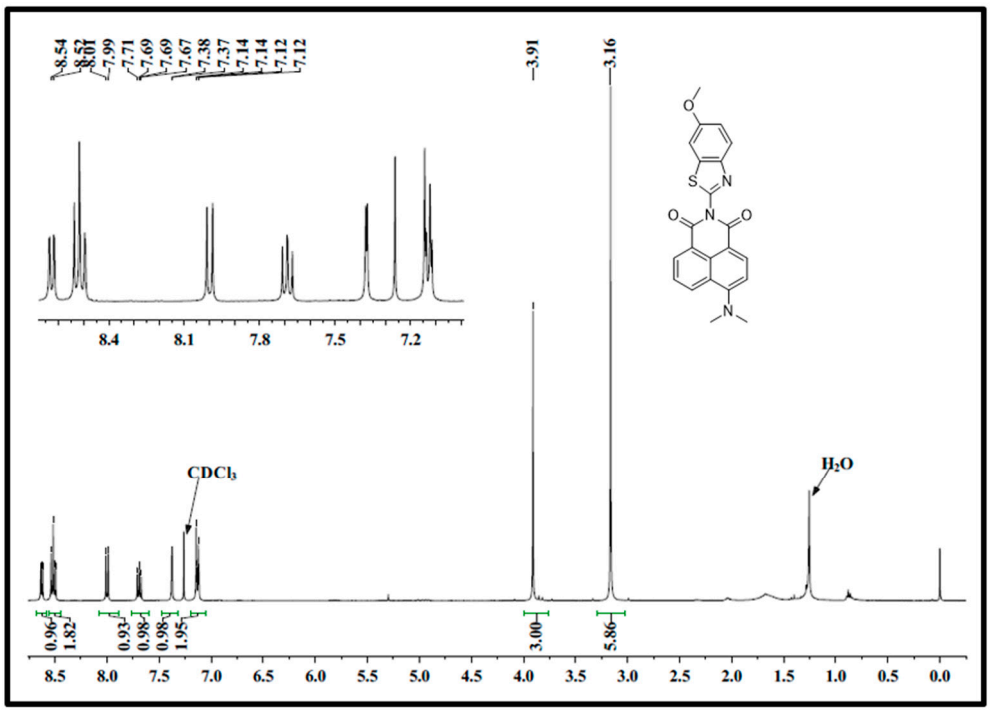


Figure S1. [1]H NMR of compound **1**.

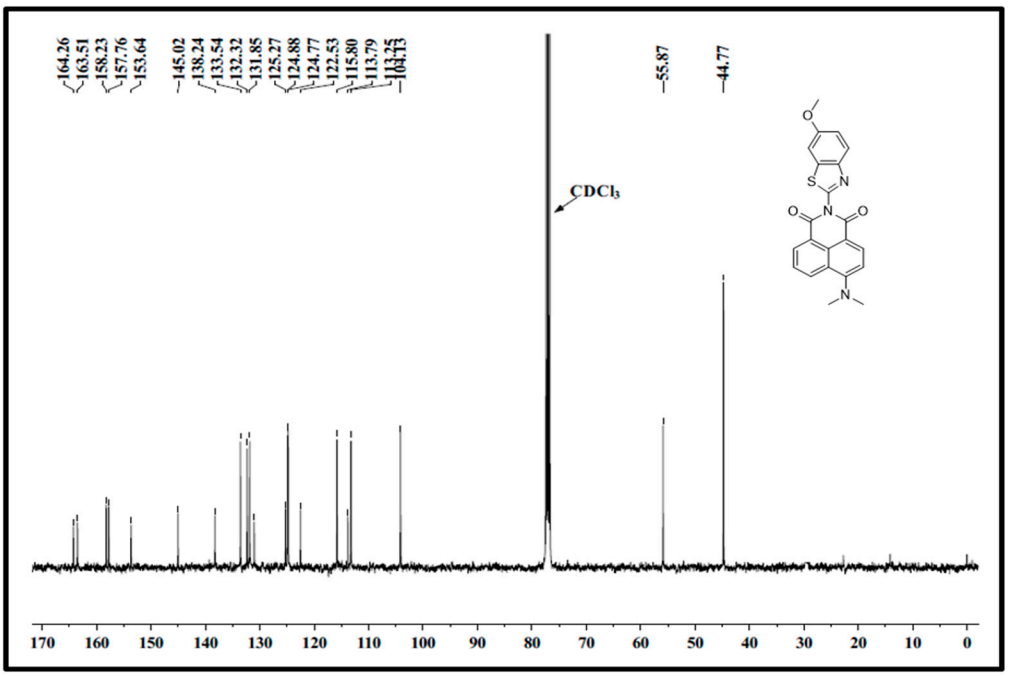


Figure S2. ^{13}C NMR of compound **1**.

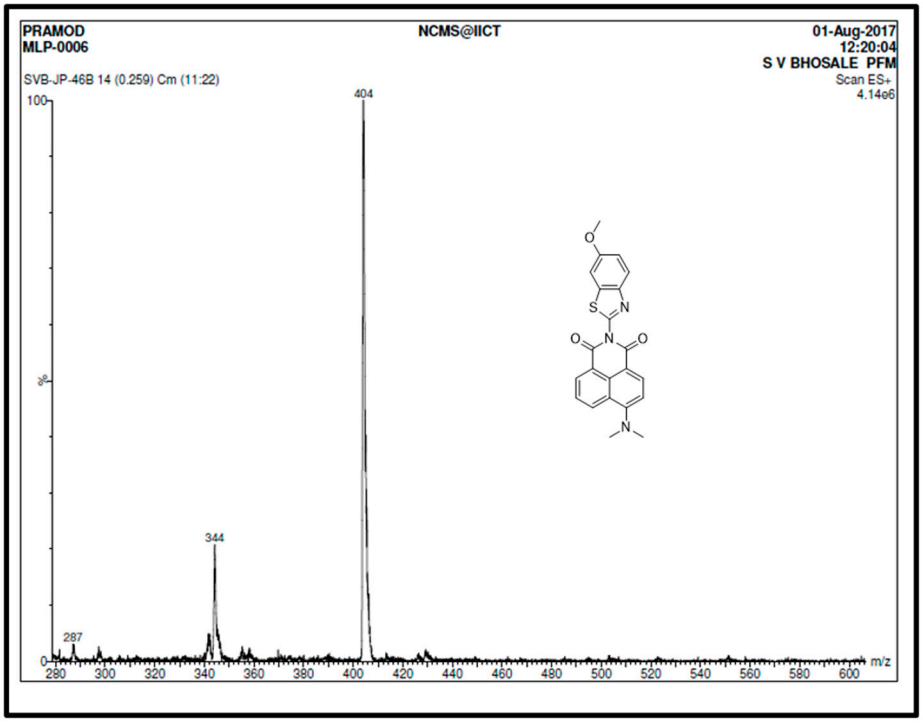


Figure S3. ESI mass of compound **1**.

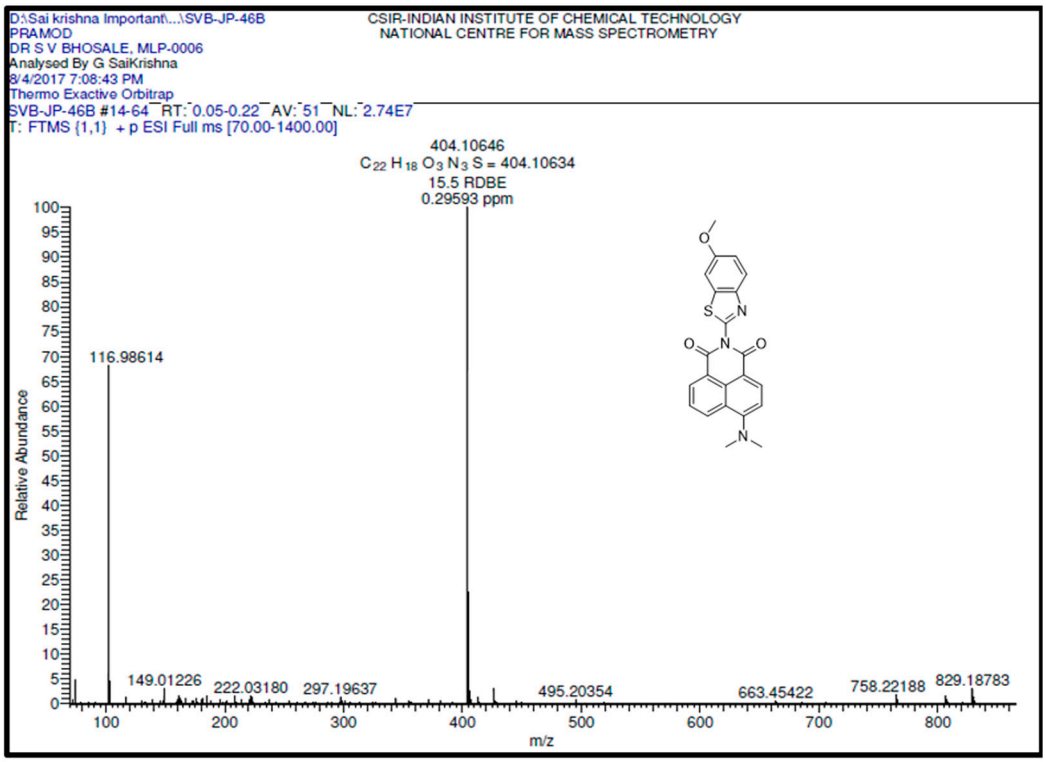


Figure S4. ESI- HRMS of compound **1**.

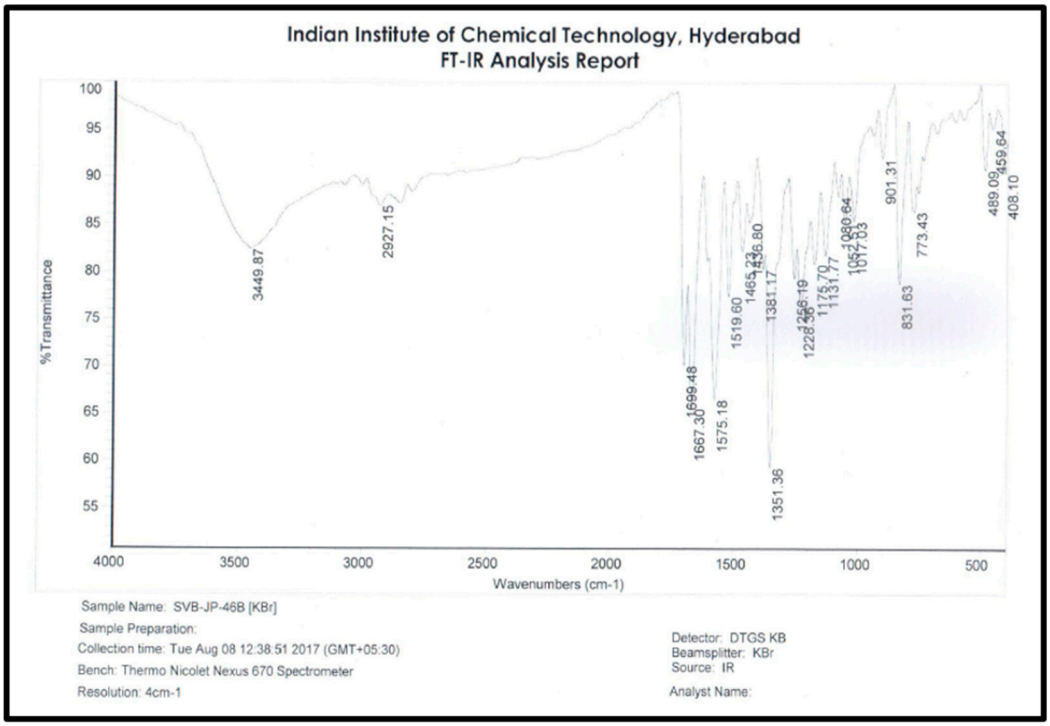


Figure S5. FT-IR of compound **1**.

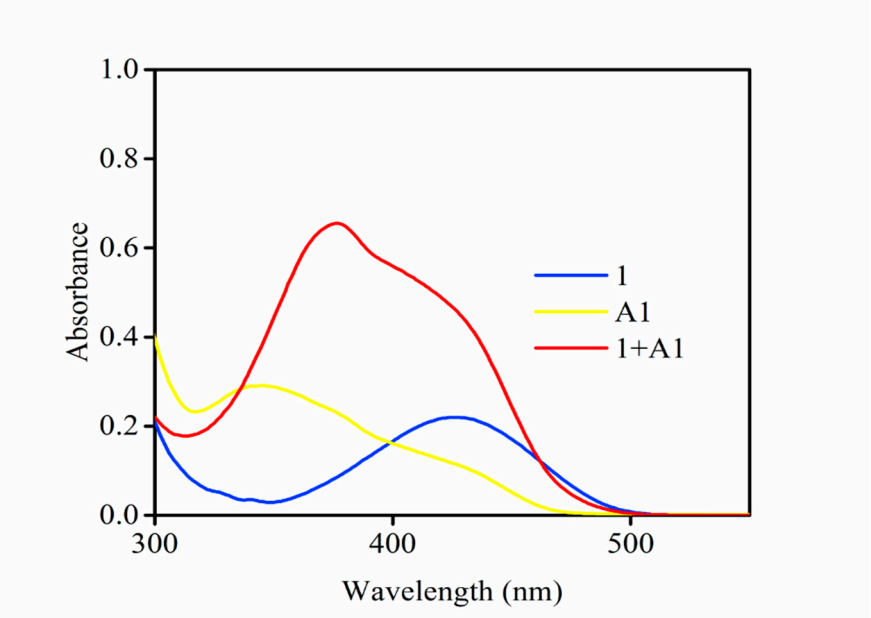


Figure S6. Absorption spectra of receptor **1**, TNP (**A1**) and 1:**A1** complex.

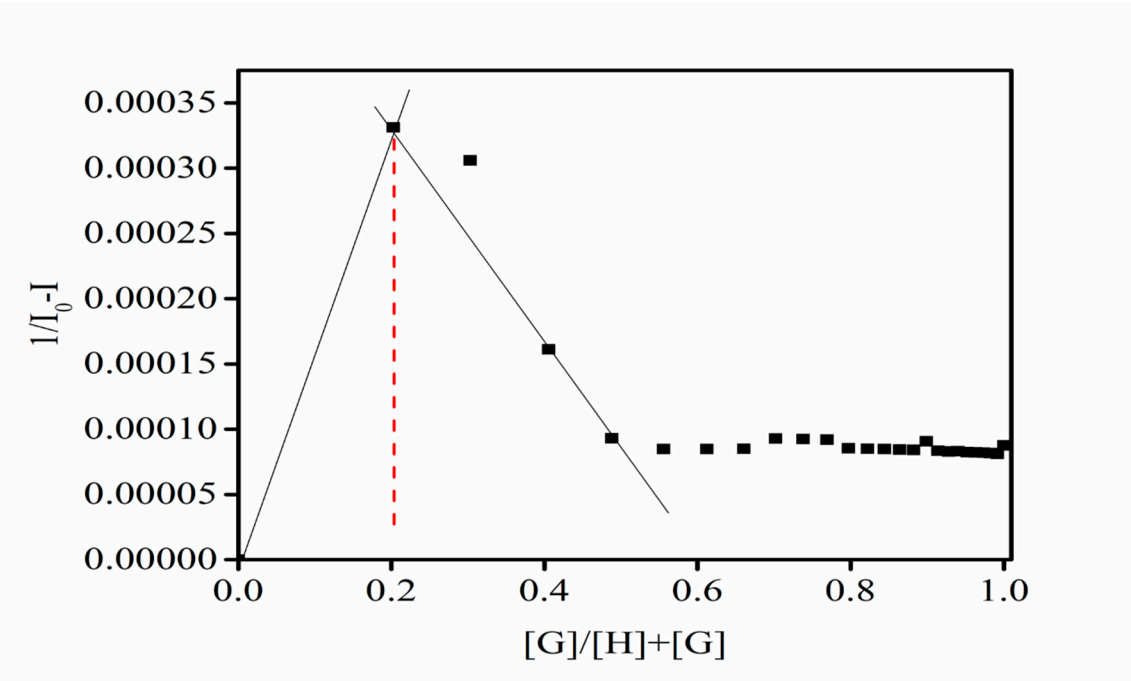


Figure S7. Job's plot obtained from fluorescence emission spectral data (λ_{ex} = 413 nm); G- analyte TNP (**A1**) and H- receptor **1**.

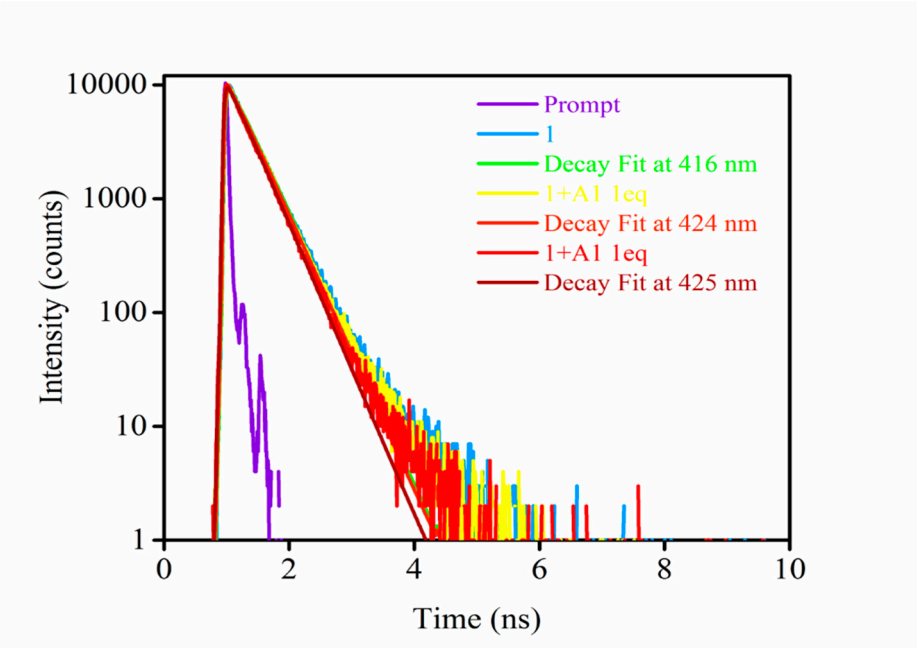


Figure S8. Time resolved decay (tau) of compound **1** in the presence and absence of TNP (**A1**) @ 416 nm, 424 nm and 425 nm.

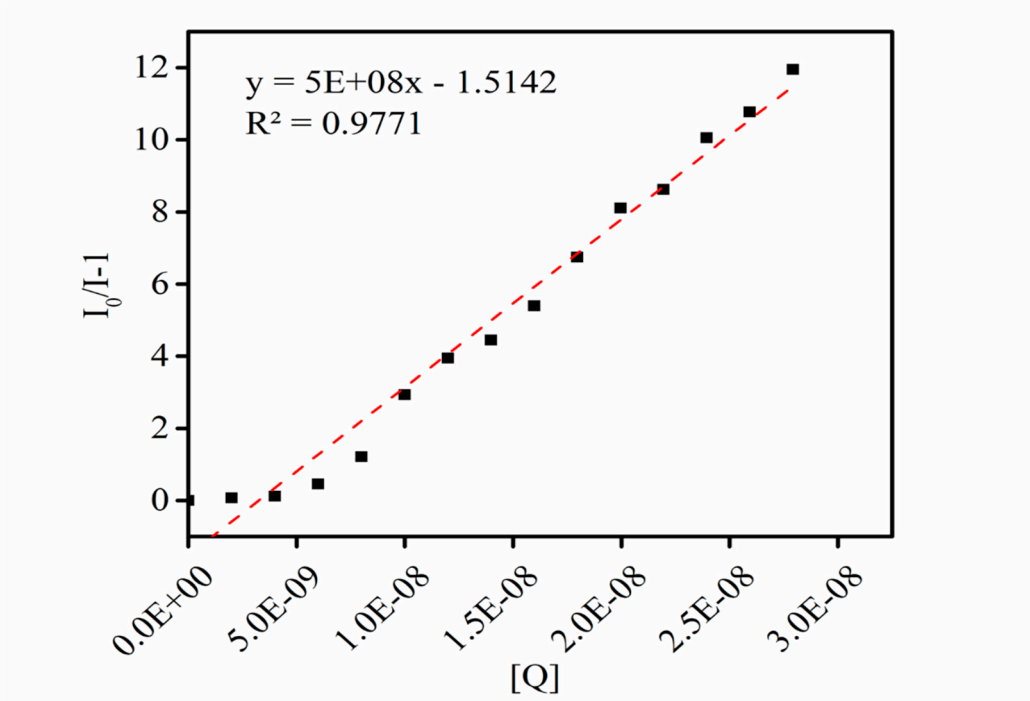


Figure S9. Stern-Volmer plot for TNP with **1**. The relative fluorescence intensity is linear with TNP concentration in the range of 0–2 equivalents.

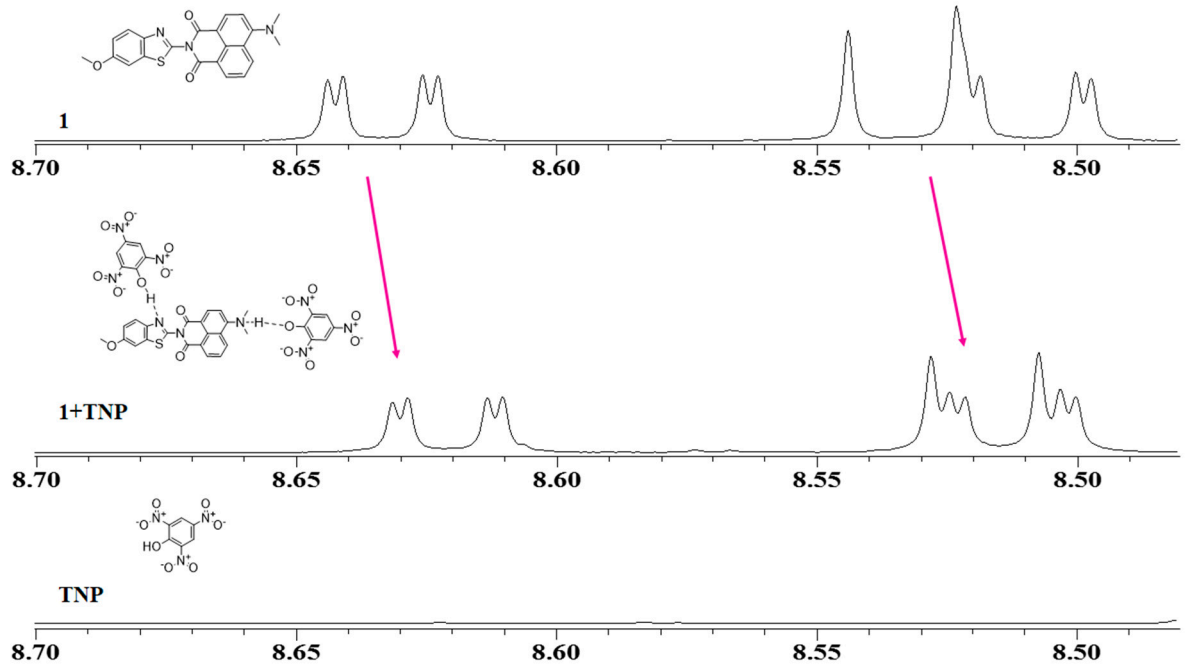


Figure S10. Zoomed image of ^{1}H NMR of probe **1,** TNP and complex between **1** and TNP **(A1).**

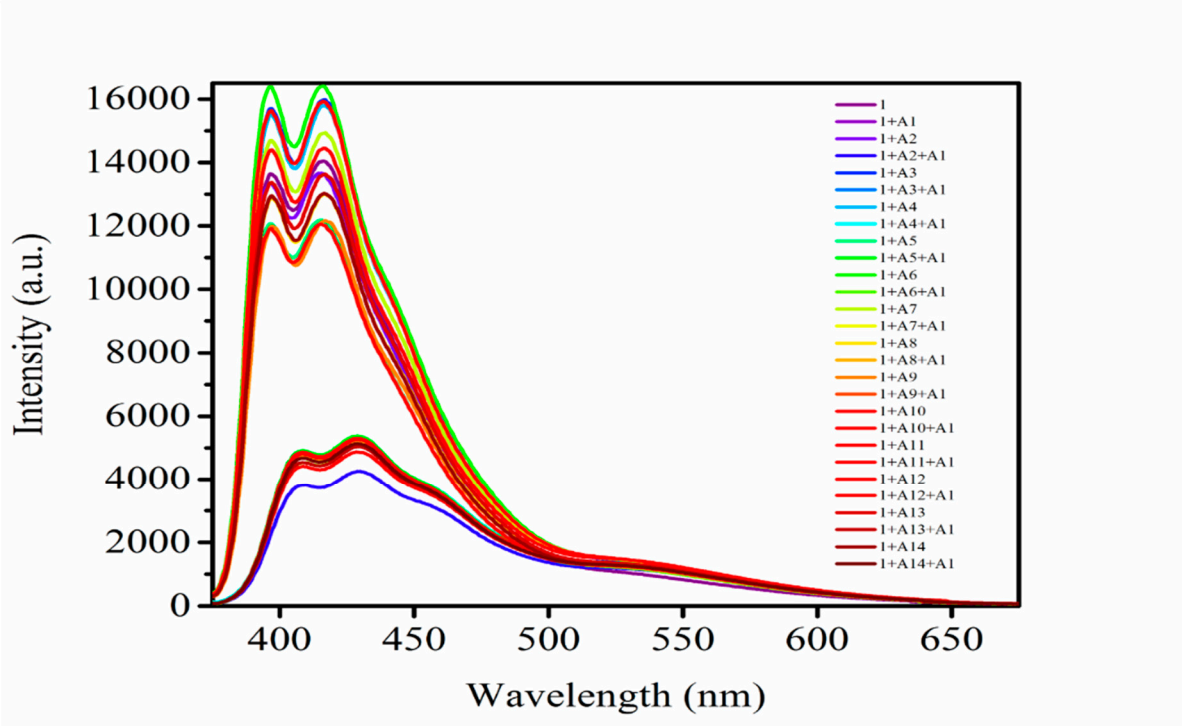


Figure S11. Competitive experimental spectra for each analyte (λ_{ex} = 365 nm).

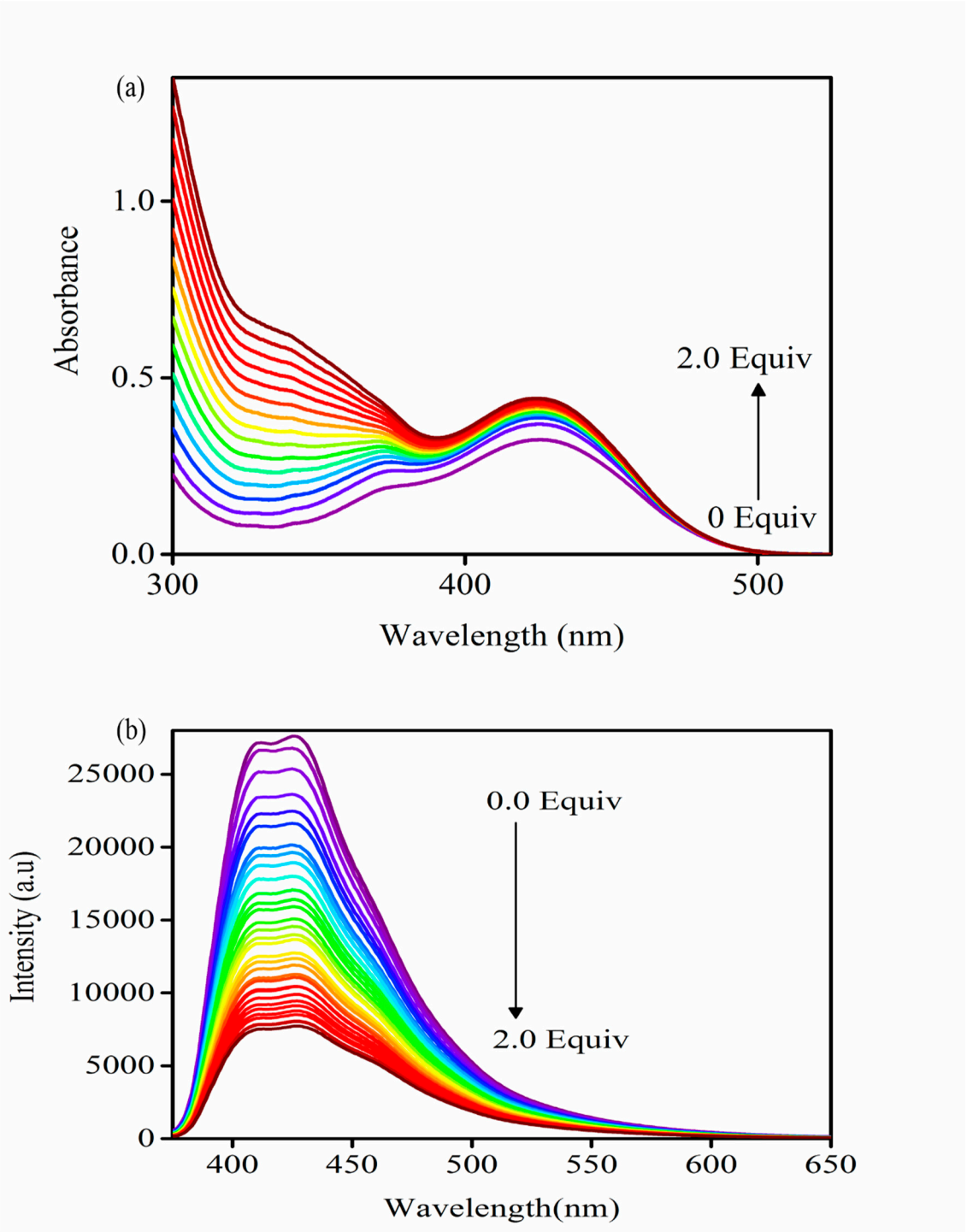


Figure S12. (**a**) UV-vis titration experiment of **1** in the presence of DNP (**A15**) and (**b**) Fluorescence titration experiment of **1** in the presence of DNP (**A15**) (λ_{ex} = 365 nm).

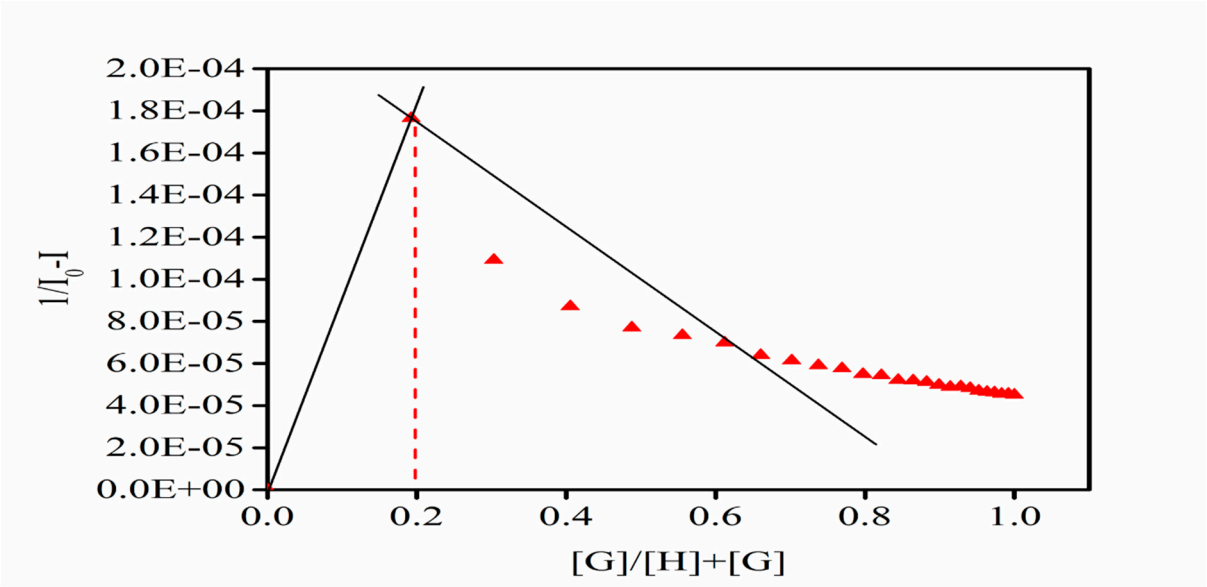


Figure S13. Job's plot obtained from fluorescence emission spectral data (λex = 413 nm); G- analyte DNP (**A15**) and H- receptor 1.

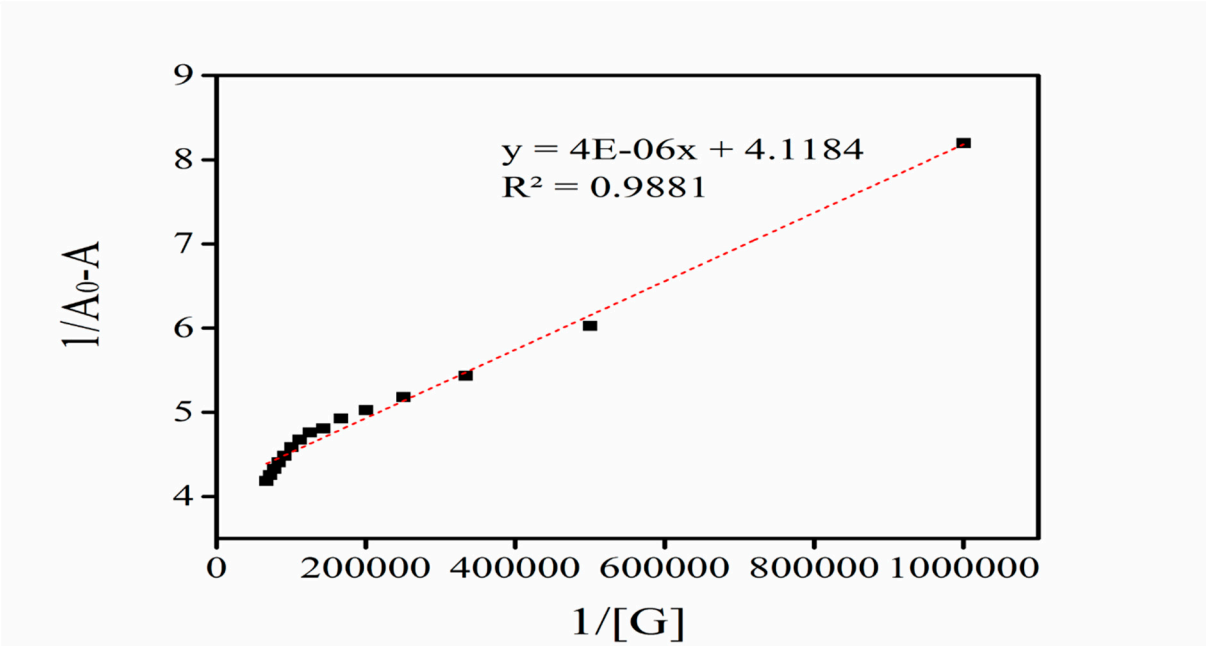


Figure S14. Benesi-Hildebrand plot of **1** for DNP (**A15**) (G).

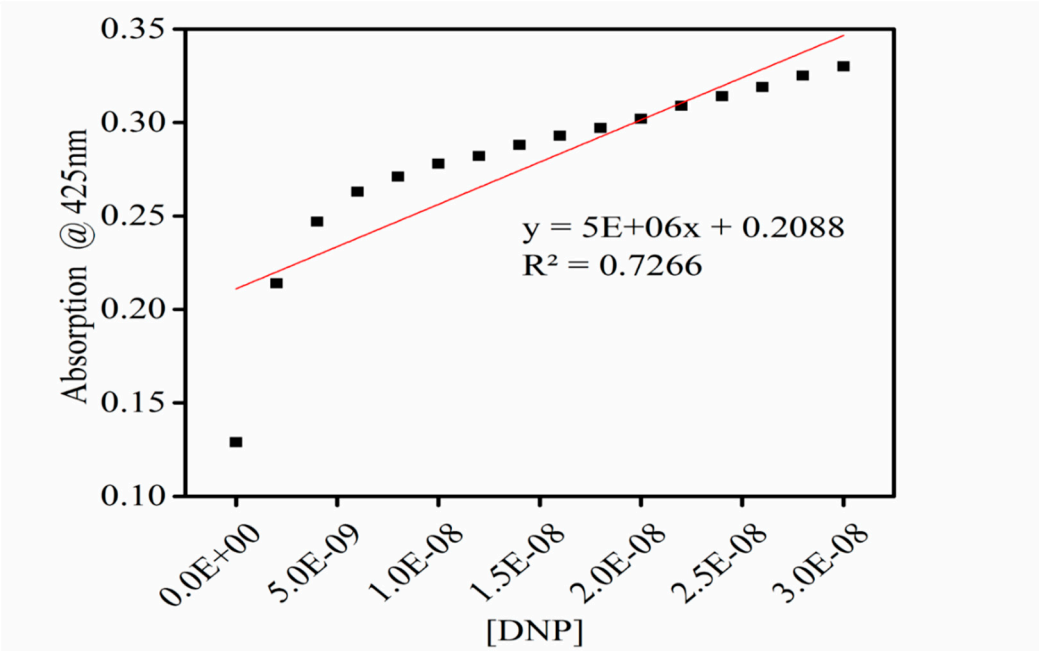


Figure S15. Absorption intensity at 425 nm of **1** versus increasing concentration of DNP (**A15**).

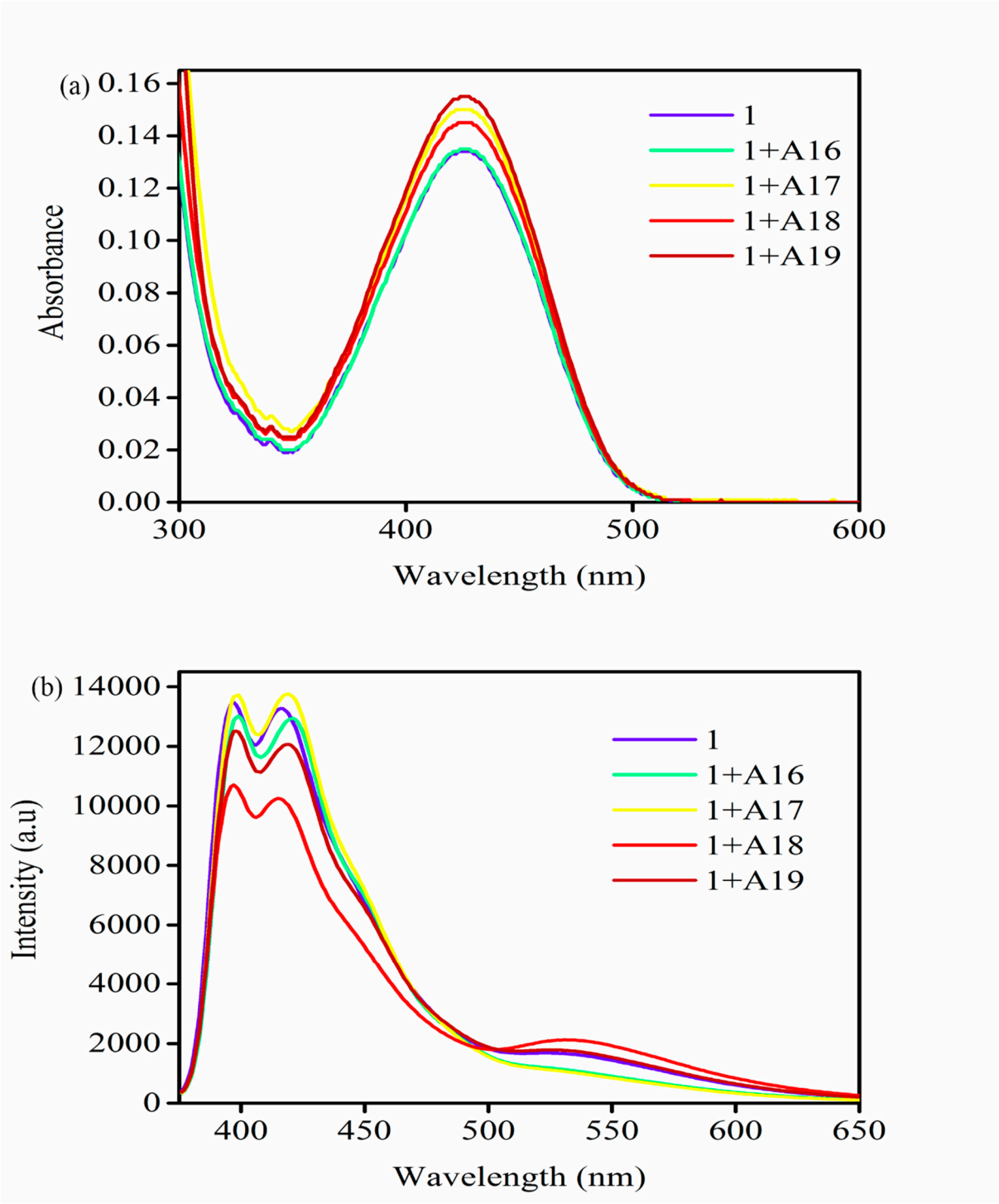
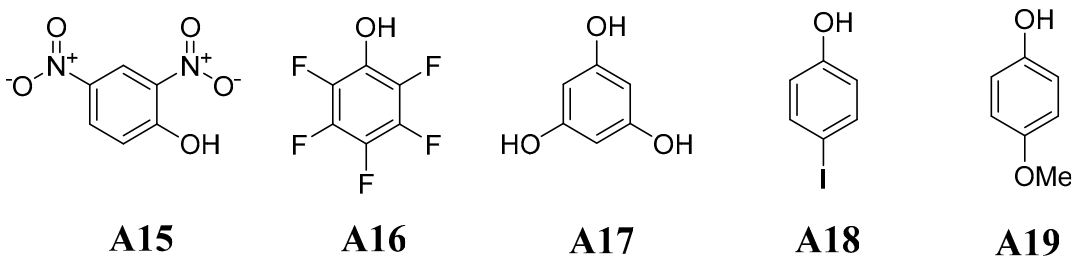


Figure S16. (**a**) UV-vis titration experiment of **1** in the presence of **A16**, **A17**, **A18**, **A19** and (**b**) Fluorescence titration experiment of **1** in the presence of **A16**, **A17**, **A18**, **A19** (λ_{ex} = 365 nm).

Table S1. The time resolved decay (tau) values of **1**, **1**:A1 (1 equiv.) and **1**:A2 (2 equiv.).

Sample Code	τ_1 (ns)	Contribution (%)
1	1.0195	100
1+A1 1eq	1.0087	100
1+A1 2eq	0.9546	100



Scheme S1. The aromatic (**A15** to **A19**) structures used in sensing study.