Electronic Supplementary Material (ESI) for New Journal of Chemistry
This journal is © The Royal Society of Chemistry 2014

Supporting Information

Two and three input molecular logic operations mediated by a novel azo-azomethine based chromogenic probe through intramolecular charge transfer processes

Khatereh Rezaeian and Hamid Khanmohammadi*
Department of Chemistry, Faculty of Science, Arak University, Arak 38156-8-8349, Iran
E-mail: *h-khanmohammadi@araku.ac.ir*

Page No. **Contents**

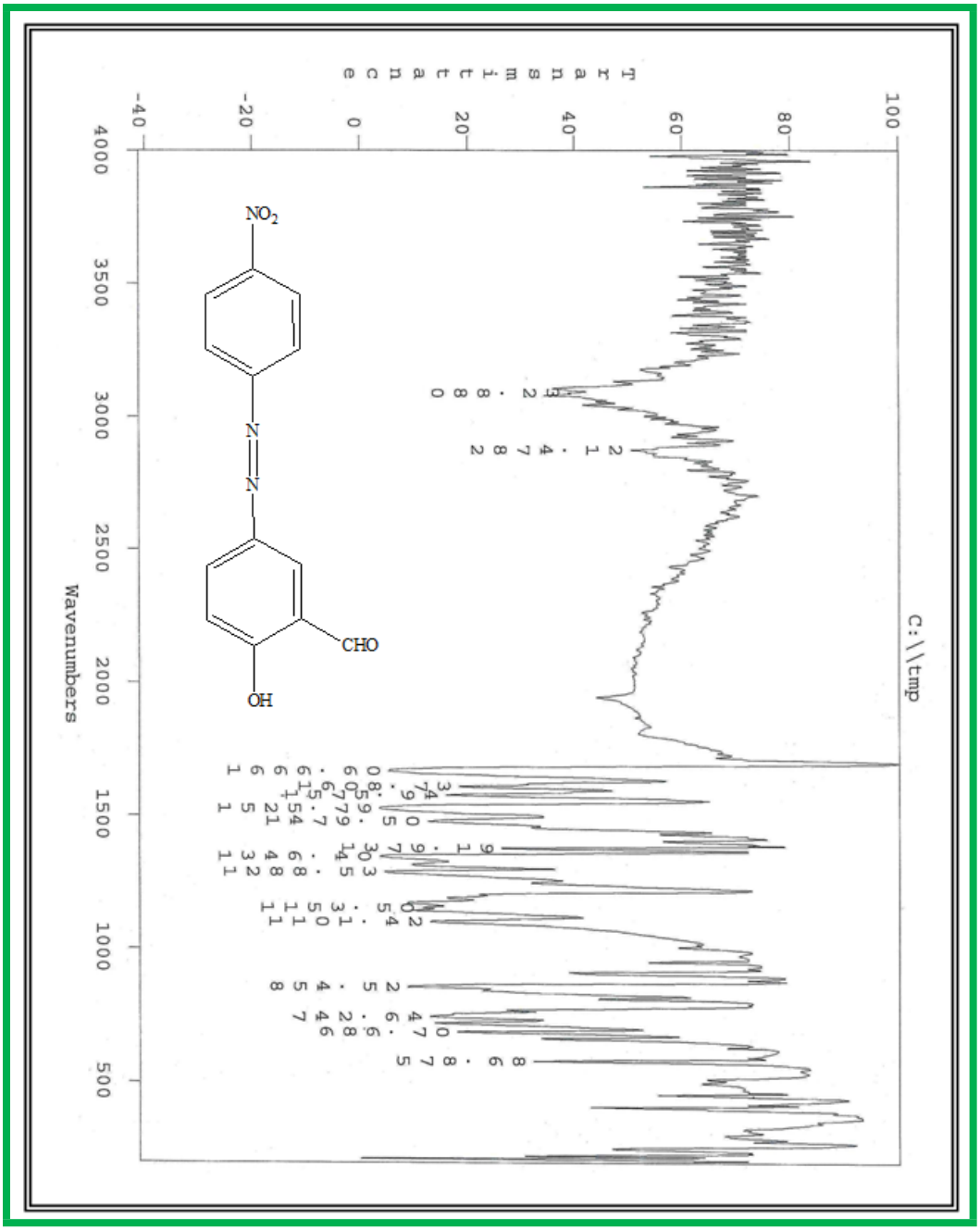


Figure S1. IR spectrum of 1-(3-Formyl-4-hydroxyphenylazo)-4-nitrobenzene

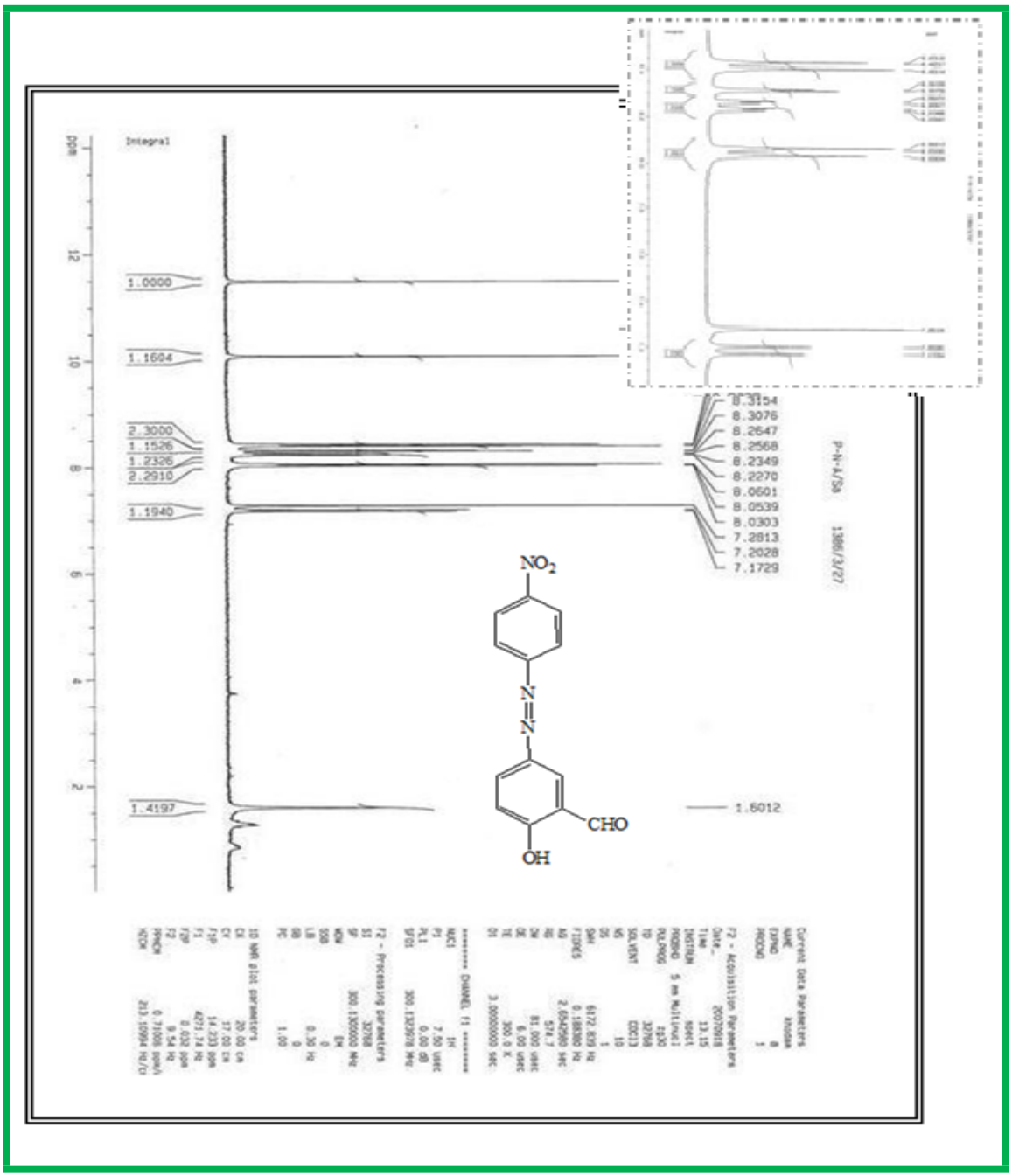


Figure S2. ^{1}H NMR spectrum of 1-(3-Formyl-4-hydroxyphenylazo)-4-nitrobenzene

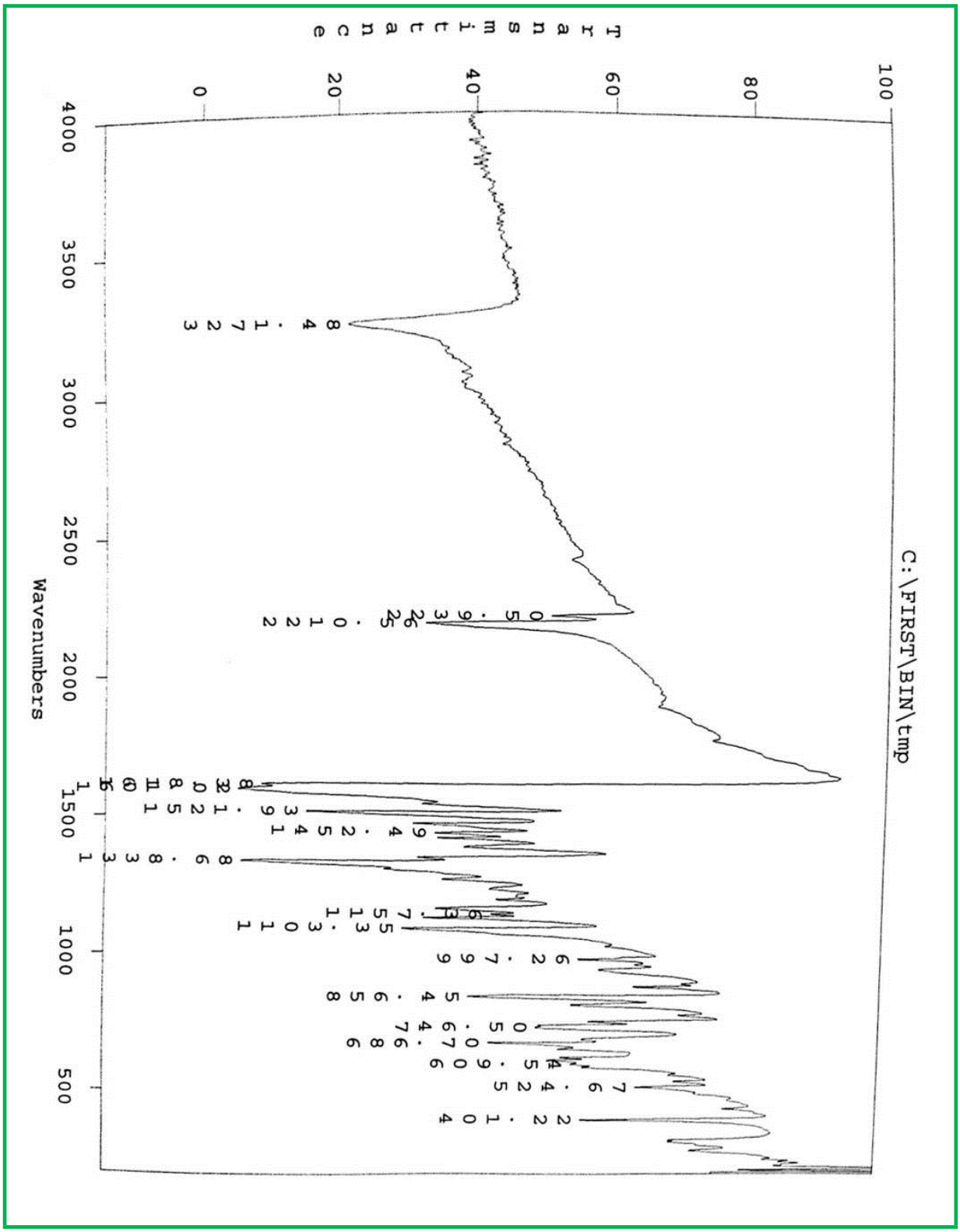


Figure S3. IR spectrum of **1**

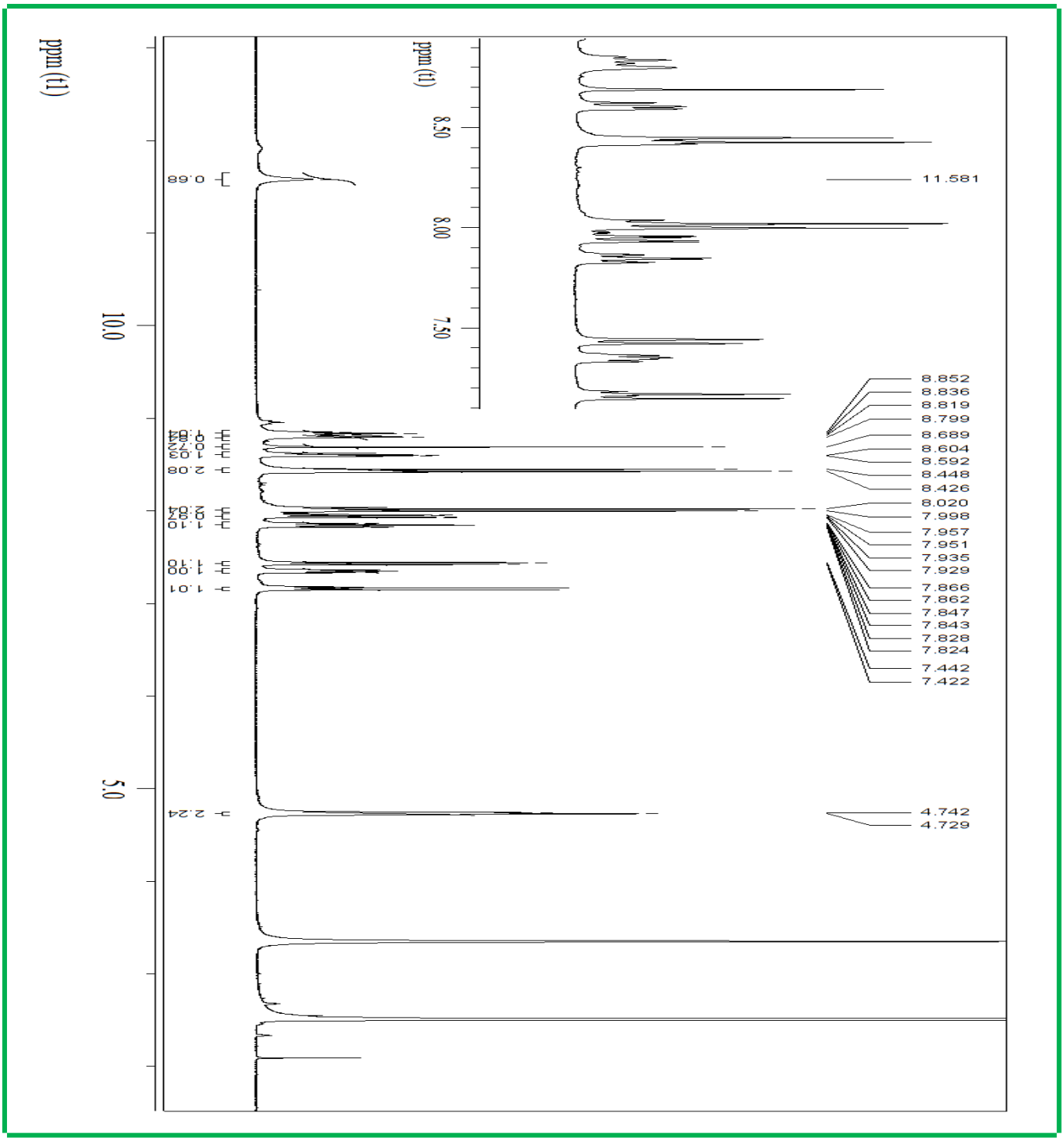
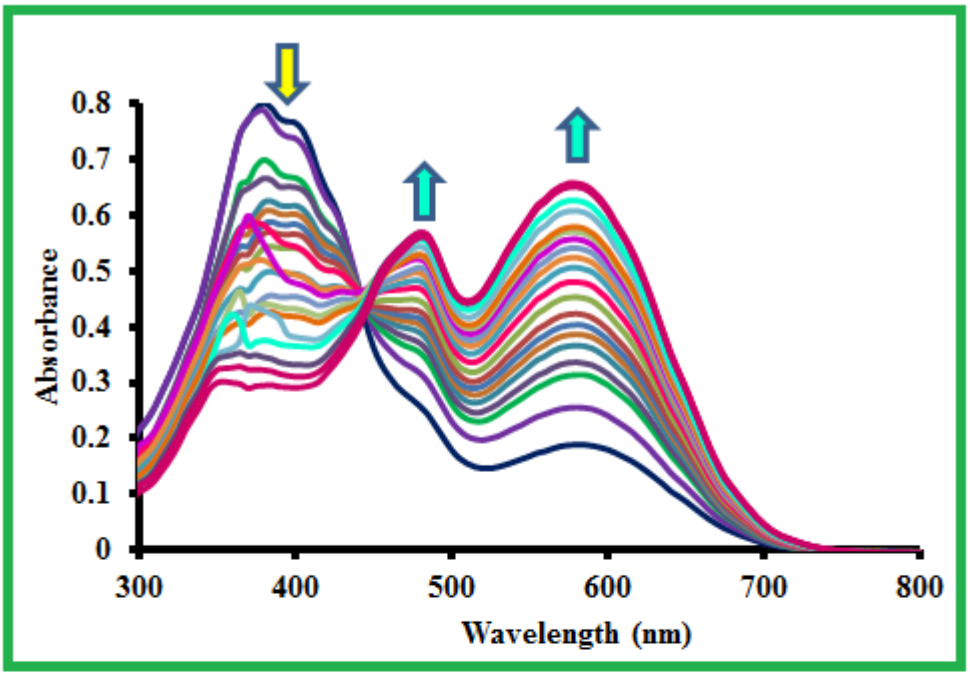
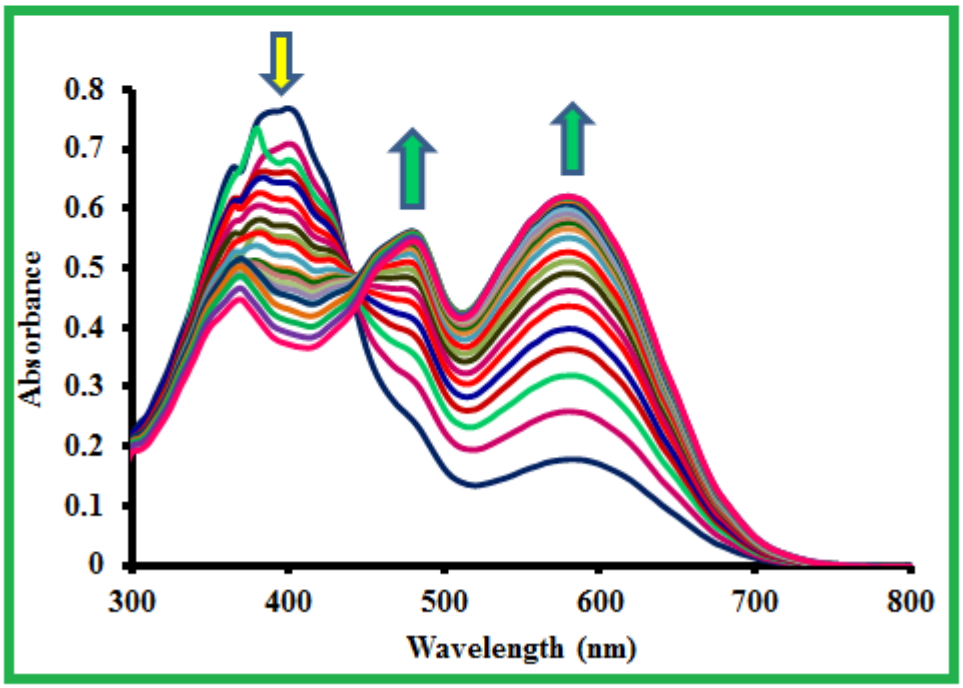


Figure S4. ^{1}H NMR spectrum of **1**



(A)



(B)

Figure S5. UV-Vis absorption spectra of sensor **1** (2×10^{-5} mol L^{-1}) in 9:1, DMSO-water upon addition of (A) TBAOAc and (B) $TBAH_2PO_4$ (0-5 equiv.).

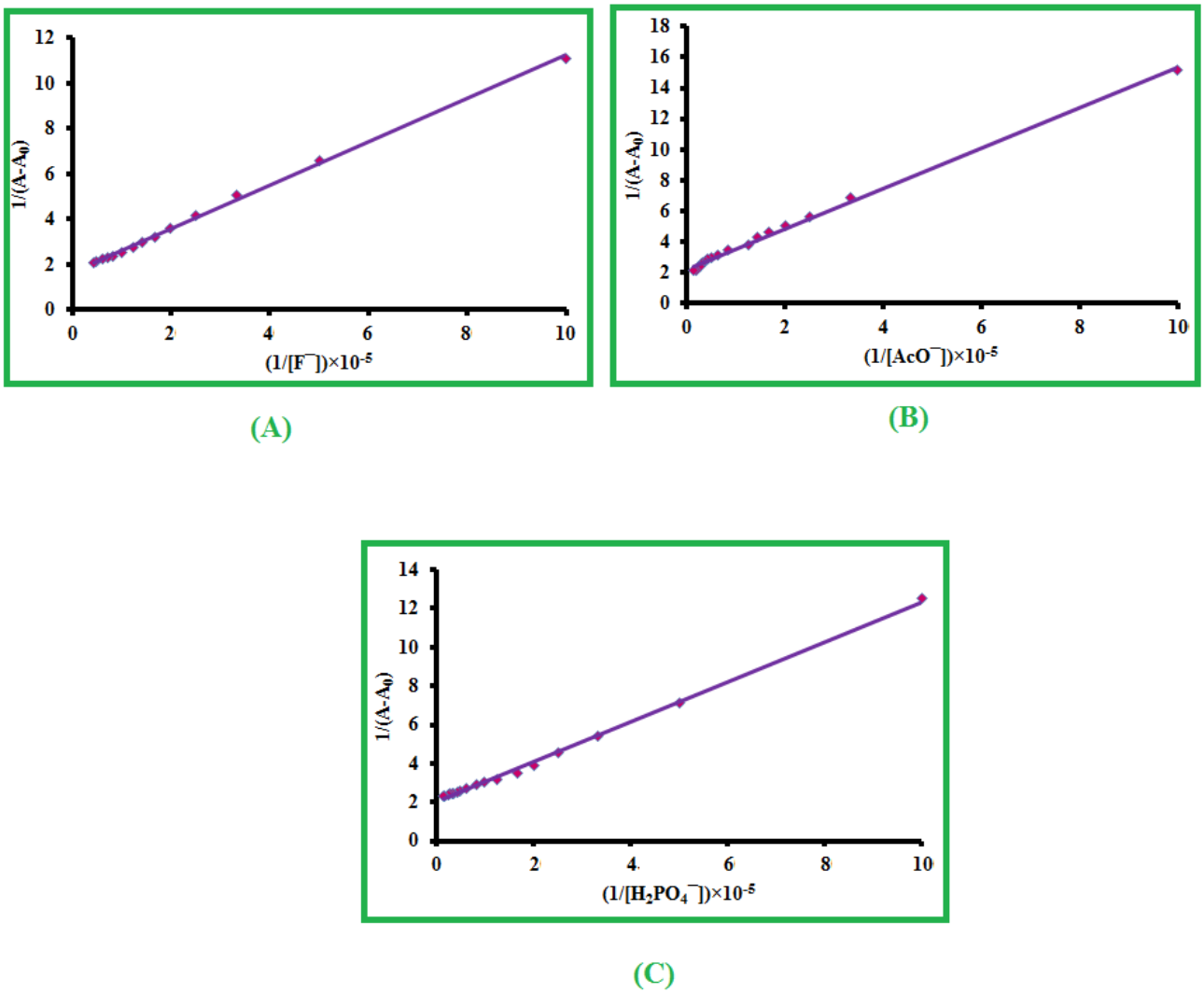


Figure S6. Benesi–Hildebrand plots of receptor **1** with (A) TBAF, (B) TBAOAc and (C) $TBAH_2PO_4$ associated with absorbance change at 585 nm in 9:1, DMSO-water.

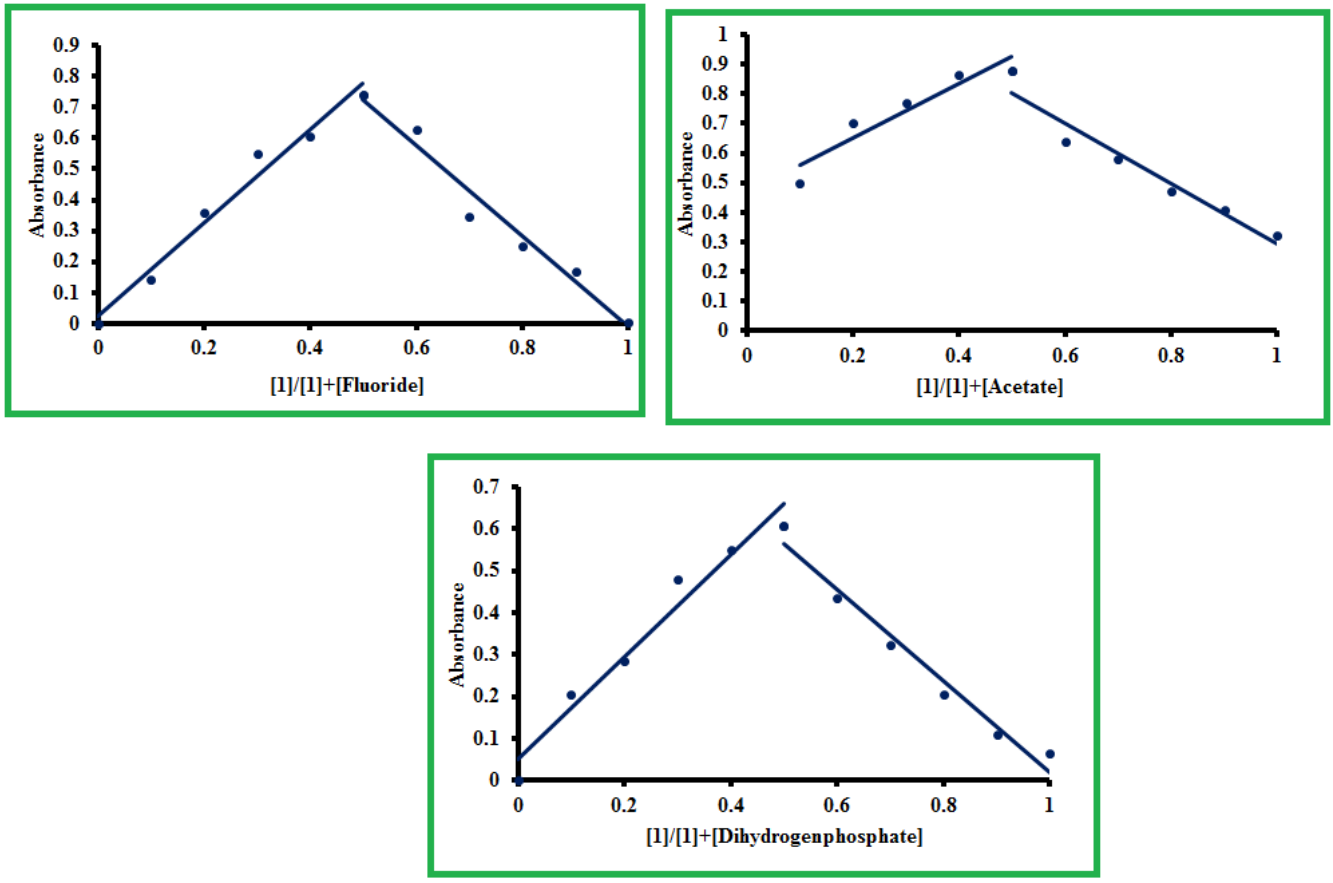


Figure S7. Job's plot for sensor **1** and anions with a total concentration of 2.0×10^{-5} M in 9:1, DMSO-water at 585 nm.

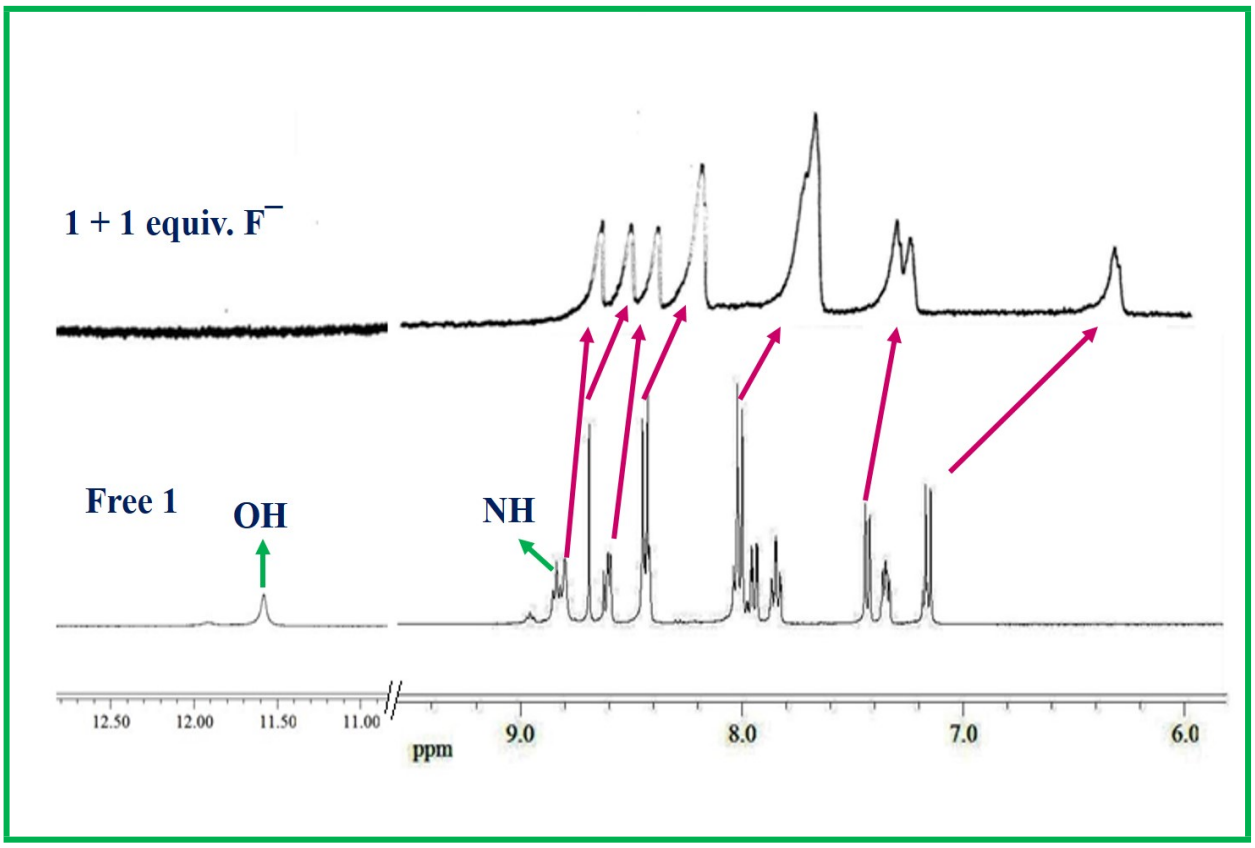


Figure S8. ^{1}H NMR spectra of **1** in DMSO-d_6 (2×10^{-2} mol L^{-1}) in the absence and presence of TBAF

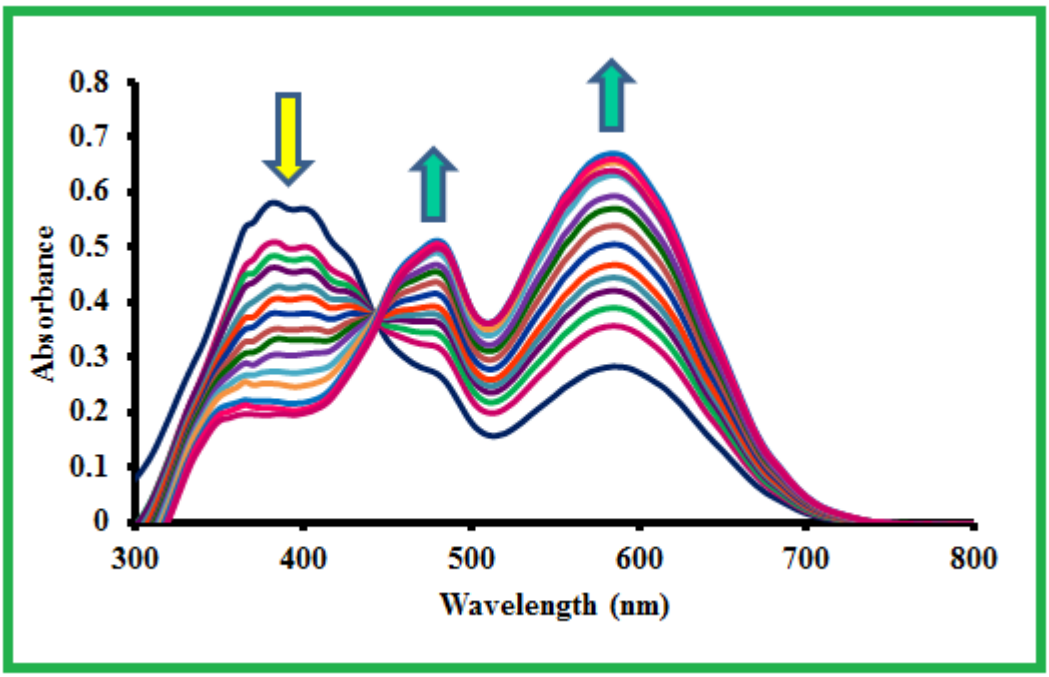
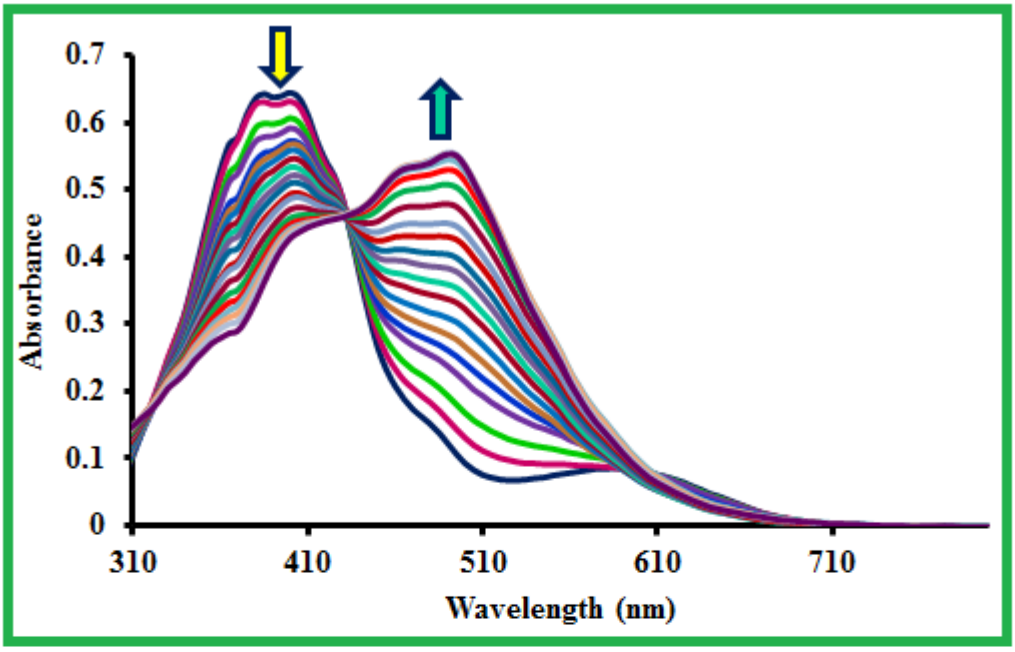
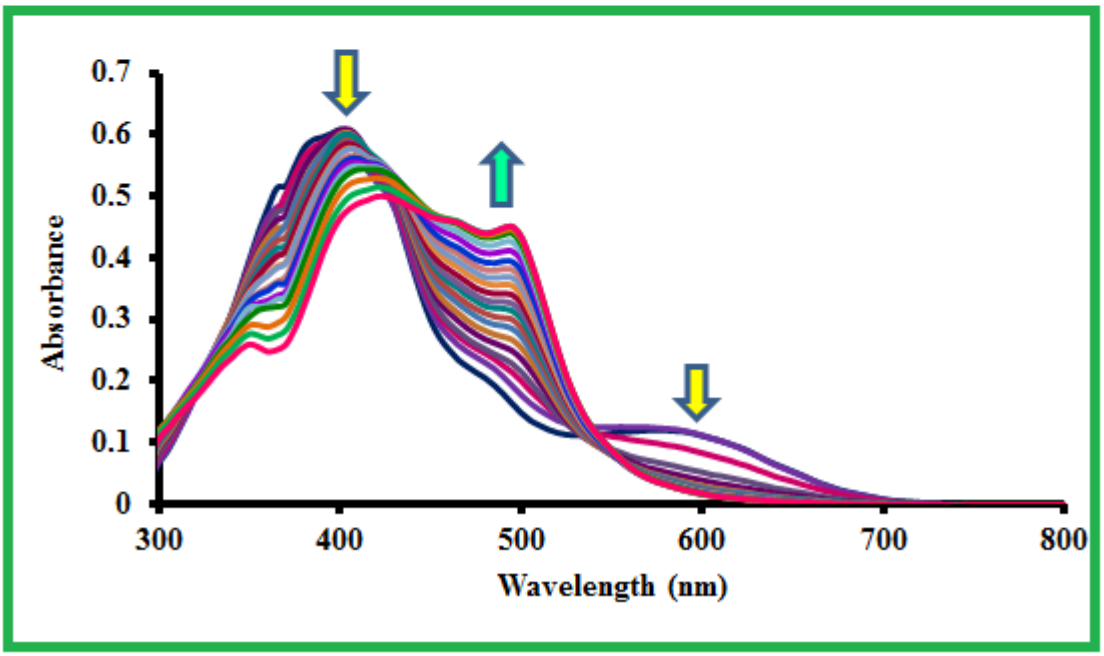


Figure S9. UV-Vis absorption spectra of sensor **1** (2×10^{-5} mol L^{-1}) in 9:1, DMSO-water upon addition of TBAOH.



(A)



(B)

Figure S10. UV-Vis absorption spectra of receptor **1** (2×10^{-5} mol L^{-1}) in 9:1, DMSO-water upon addition of (A) Co^{2+} and (B) Ni^{2+} cations (0-5 equiv.).

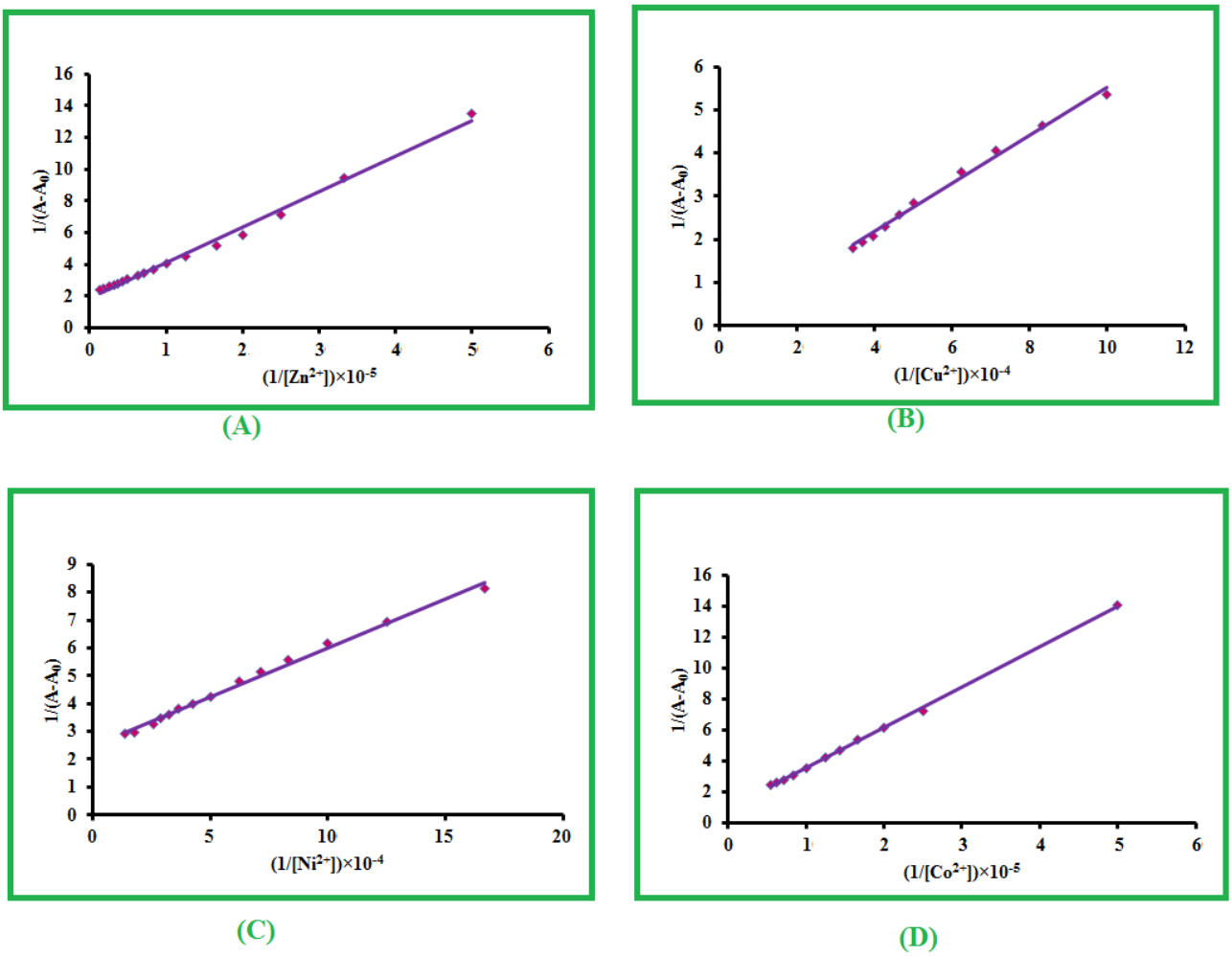


Figure S11. Benesi–Hildebrand plots of receptor **1** with (A) Zn^{2+}, (B) Cu^{2+}, (C) Ni^{2+} and (D) Co^{2+} cations associated with absorbance change at 495 nm in 9:1, DMSO-water.

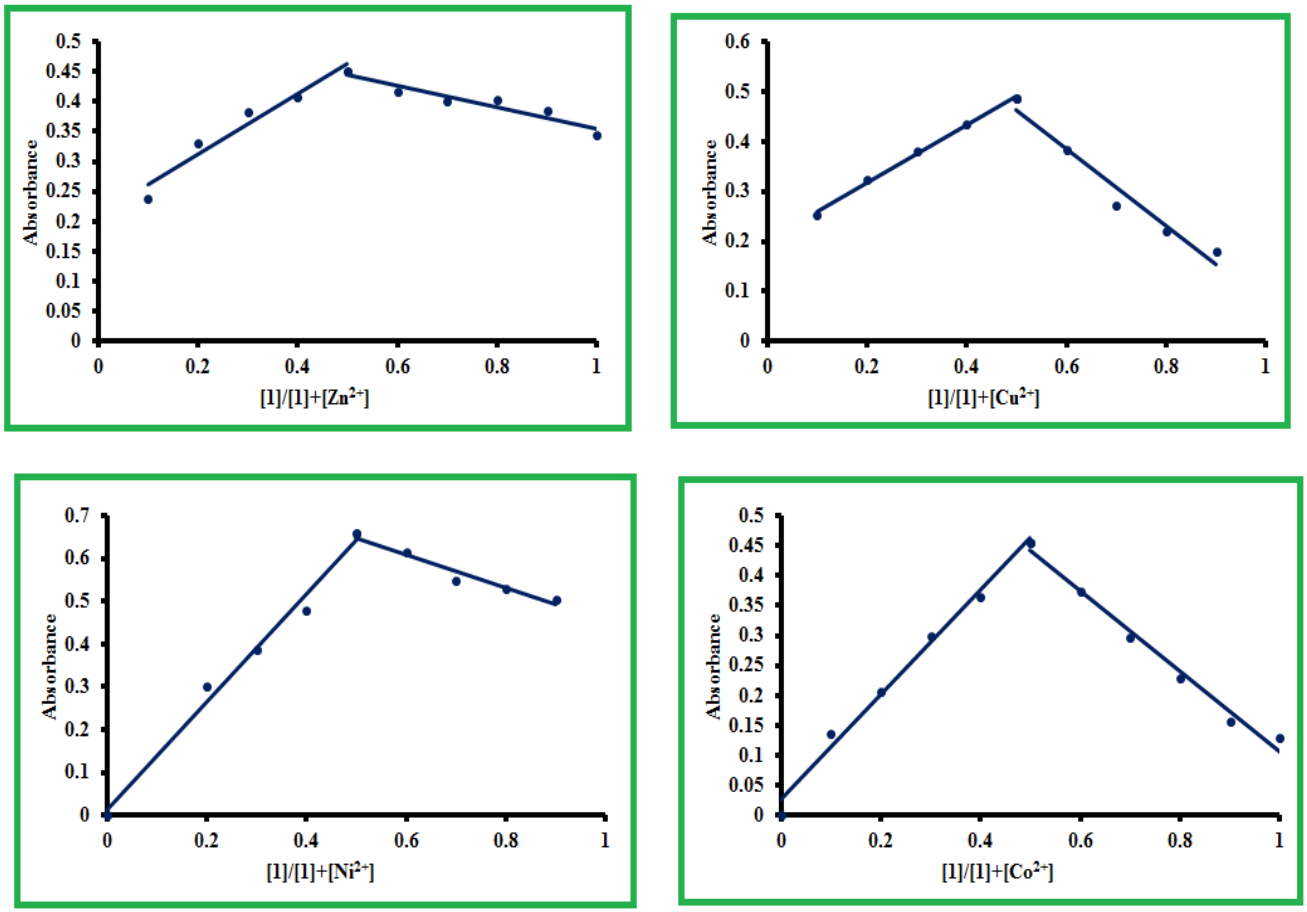


Figure S12. Job's plot for receptor **1** and cations with a total concentration of 2.0×10^{-5} M in 9:1, DMSO-water at 495 nm.

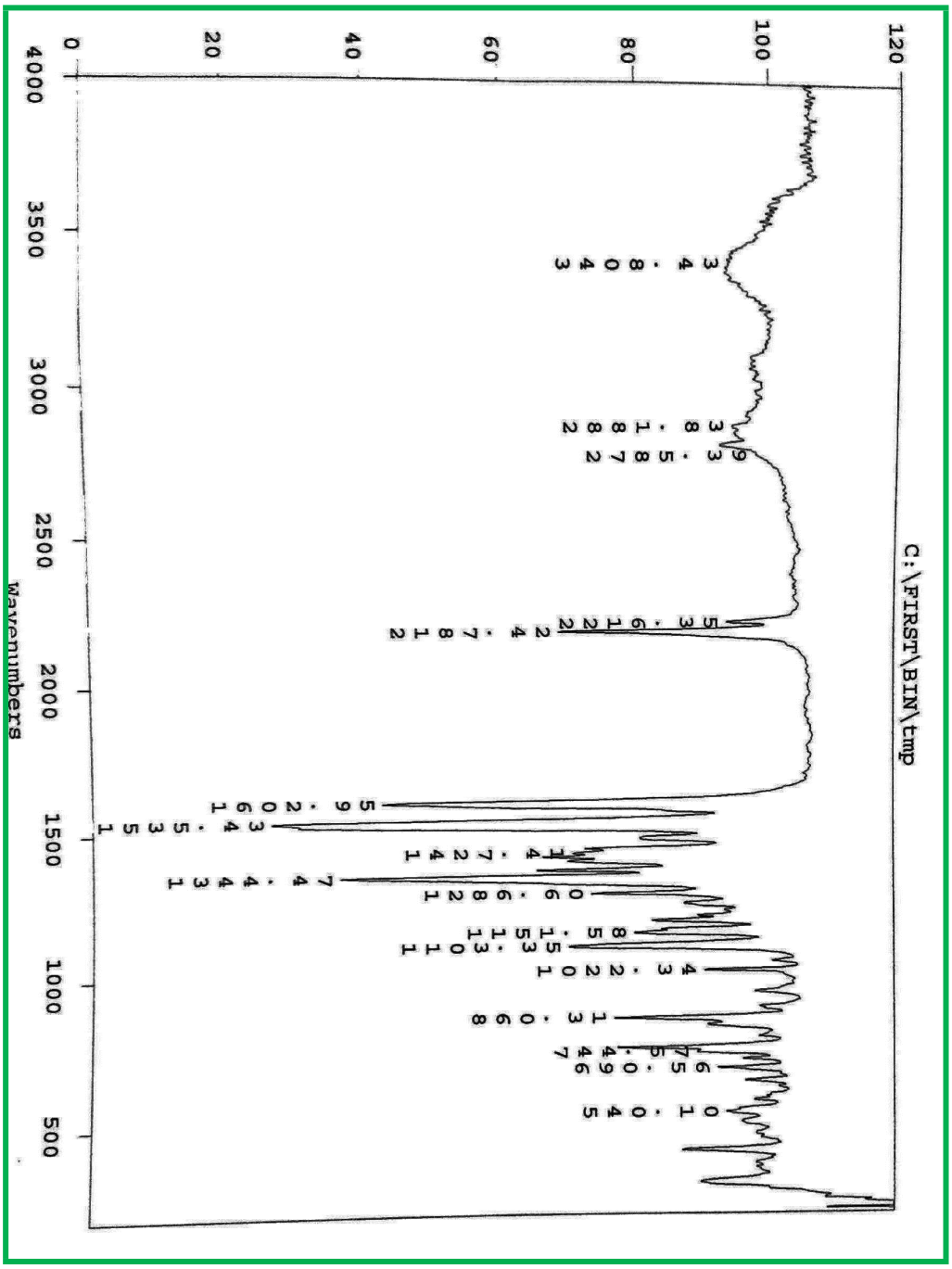


Figure S13. FT-IR spectrum of **1**-Zn^{2+}

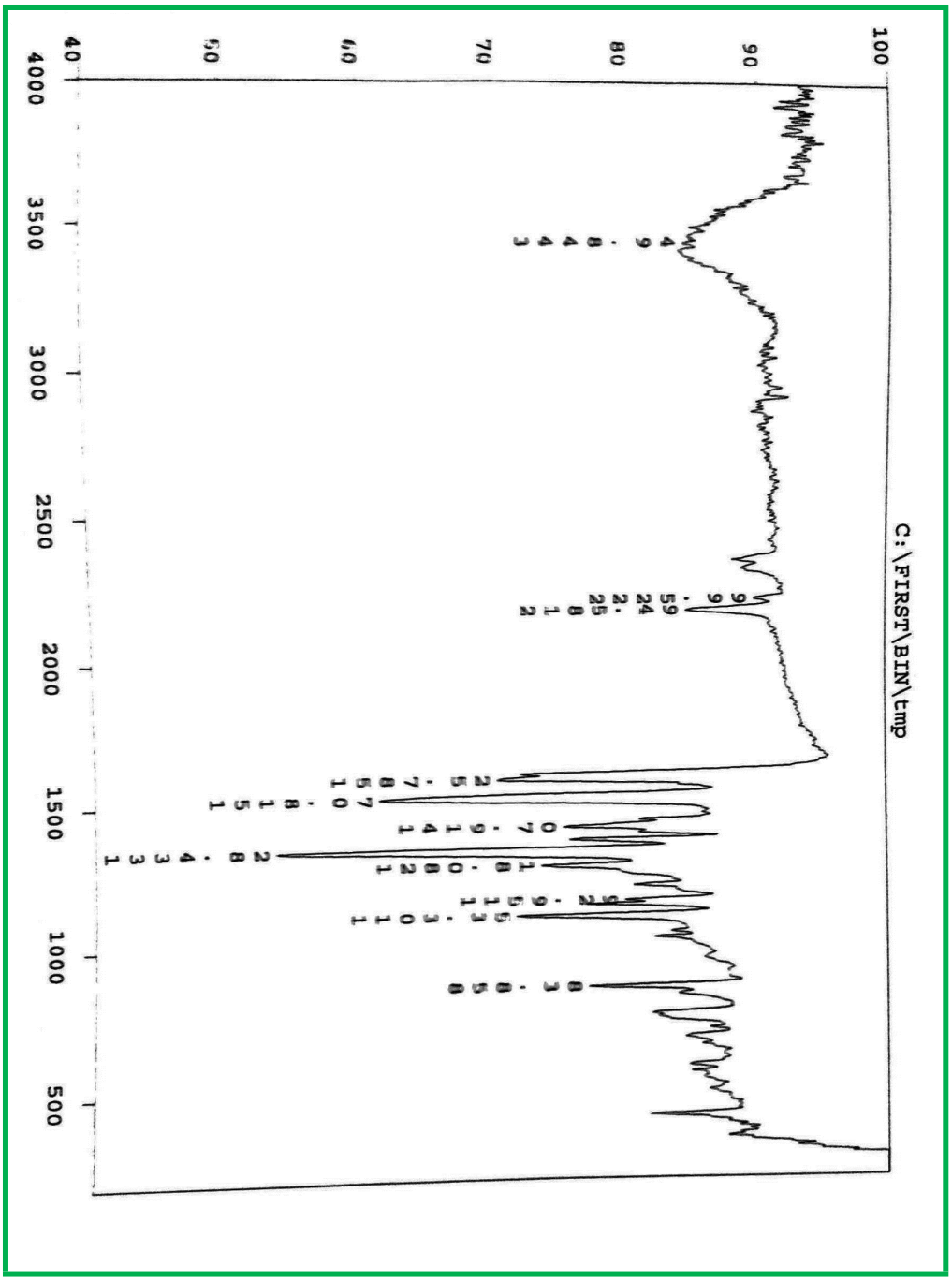


Figure S14. FT-IR spectrum of **1**-Cu^{2+}

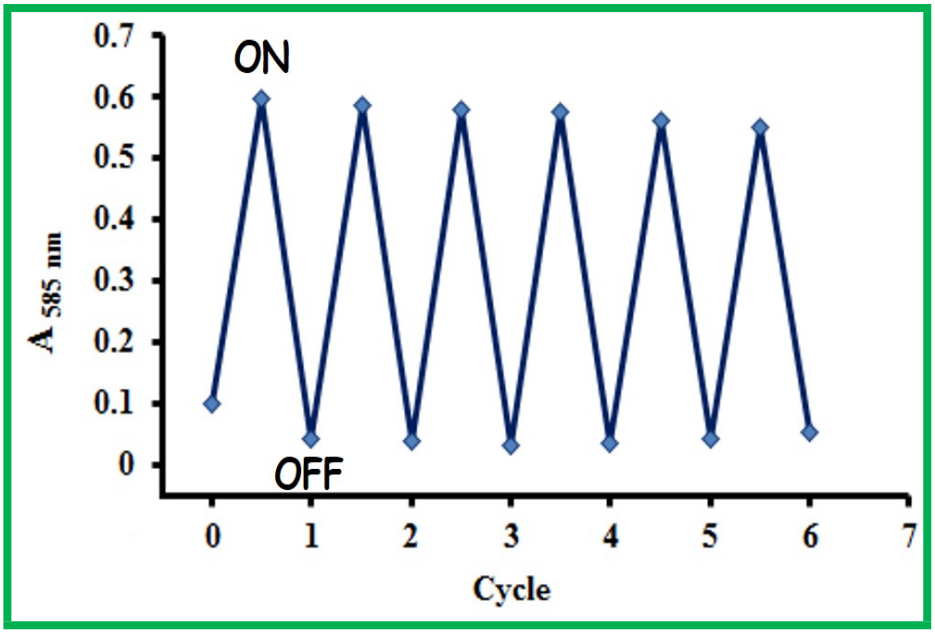
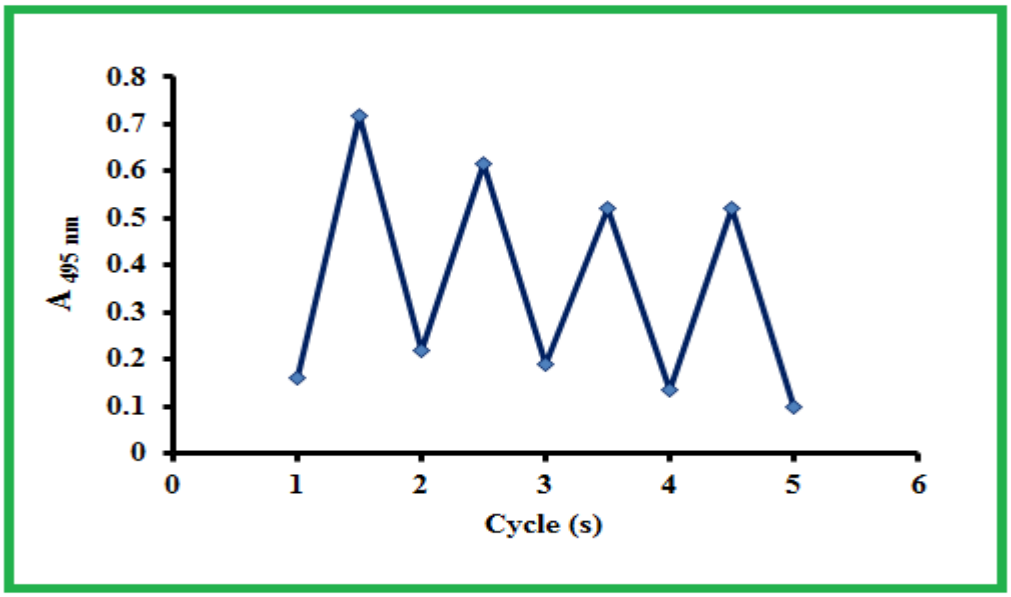
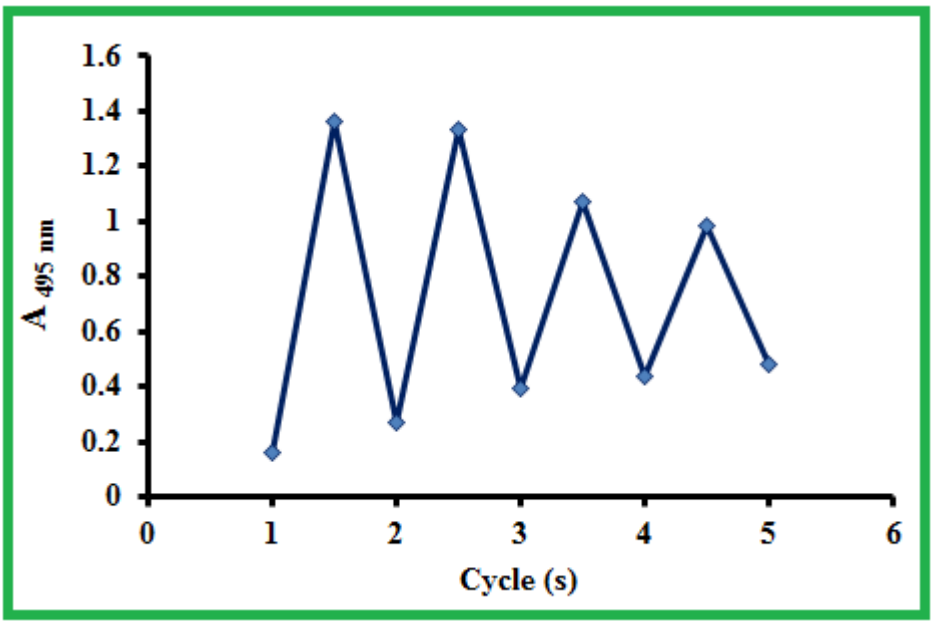


Figure S15. Reversible absorbance titration responses of receptor **1** (2×10^{-5} mol L^{-1}) binding to F^{-} (5 equiv.) by the introduction of Ca^{2+} (5 equiv.) to the system. The cyclic index is the number of alternating cycles.



(A)



(B)

Figure S16. Reversible absorbance titration responses of receptor **1** (2×10^{-5} mol L^{-1}) binding to (A) Zn^{2+} (5 equiv.) and (B) Cu^{2+} (5 equiv.) by the introduction of EDTA (sodium salt, 5 equiv.) to the system. The cyclic index is the number of alternating cycles.