

## Supplementary Material

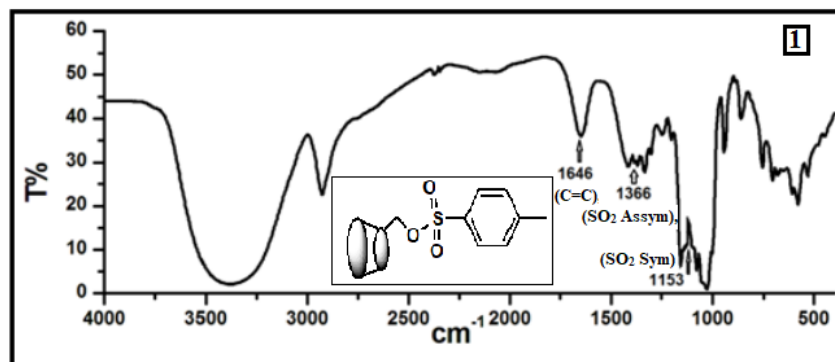
### DNA Binding and DNA Cleavage Activities of Newly Synthesized Co<sup>II</sup> and Cu<sup>II</sup> Complexes of a $\beta$ -Cyclodextrin Based Azo Functionalized Schiff Base

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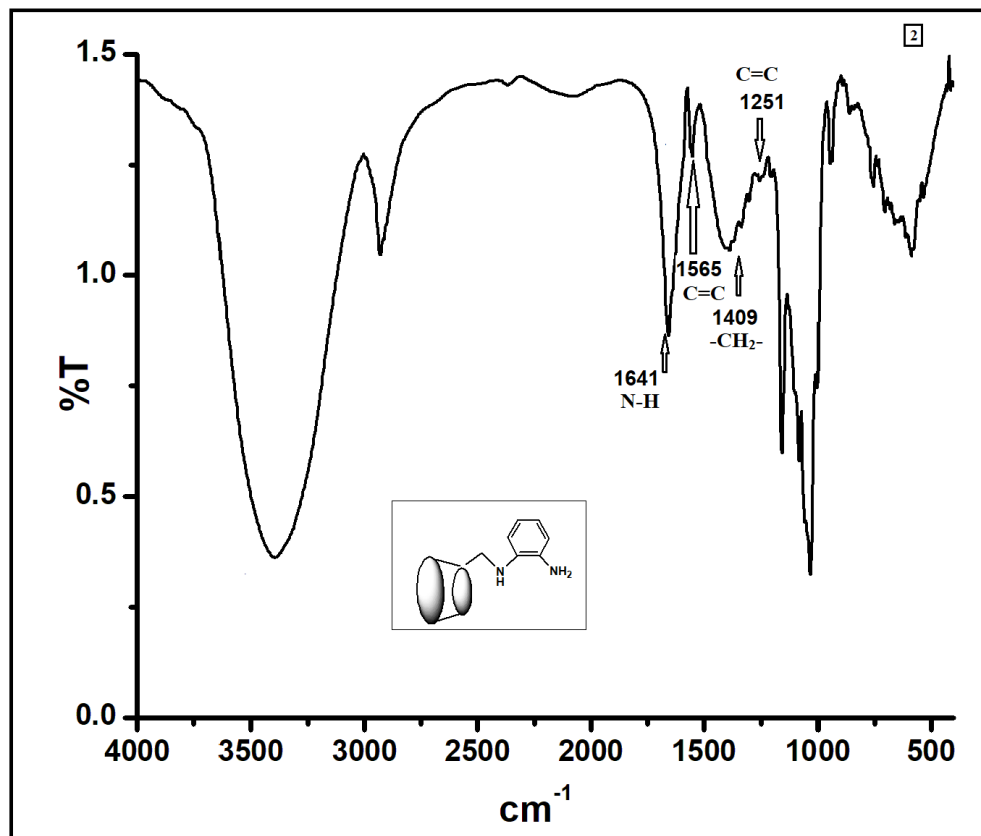
<sup>A</sup>Department of Chemistry, University of North Bengal, Darjeeling-734013, India.

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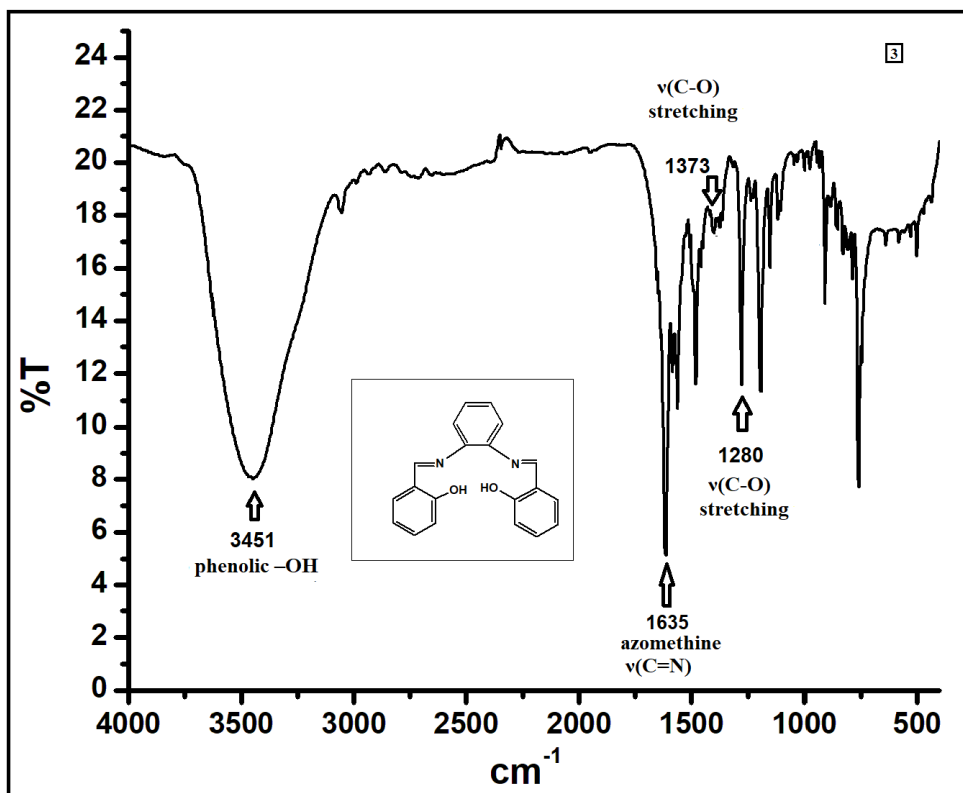
<sup>C</sup>Corresponding author. Email: biswachem@gmail.com



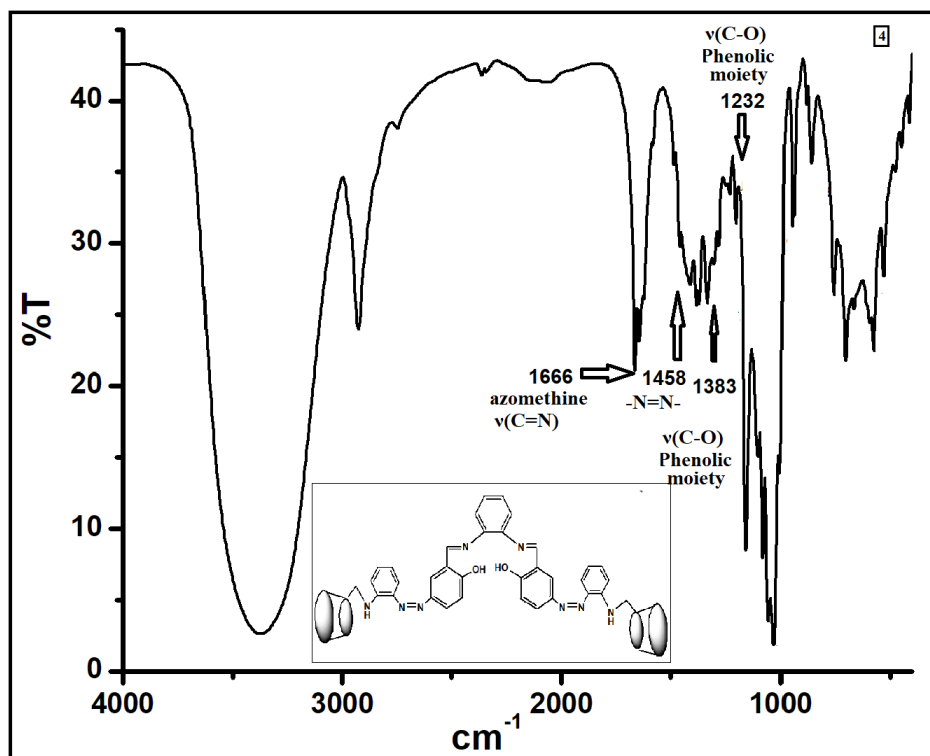
S1. FTIR spectra of Mono-6-deoxy-6-(p-tosylsulfonyl)- $\beta$ -cyclodextrin ( $\beta$ -CDOTs) (1)



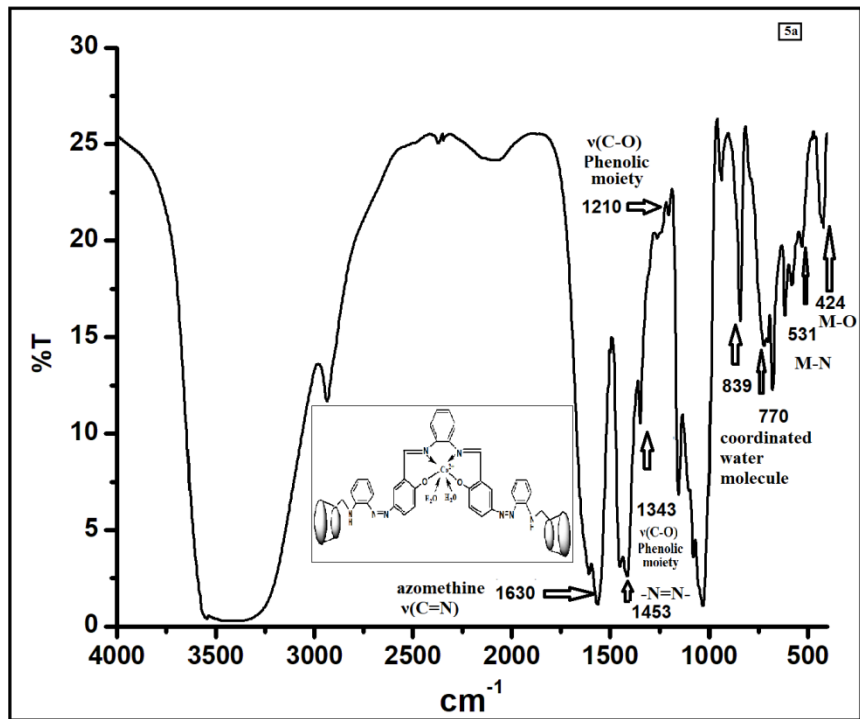
S2. FTIR spectra of mono-6-deoxy-6-(1,2-diamino)-β-cyclodextrin (2)



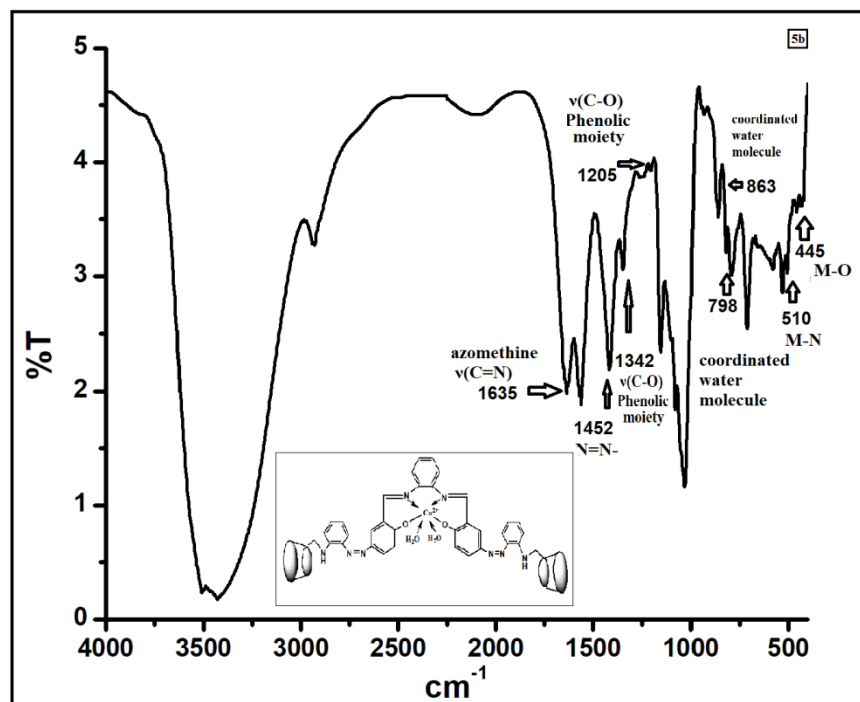
S3. FTIR spectra of Schiff base (3).



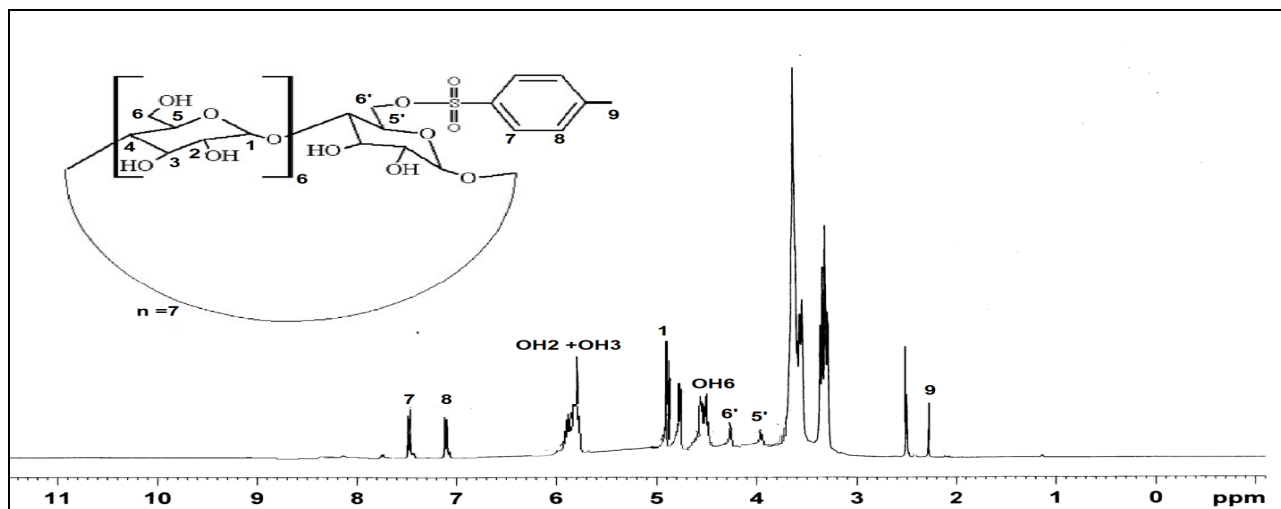
S4. FTIR spectra of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand(4)



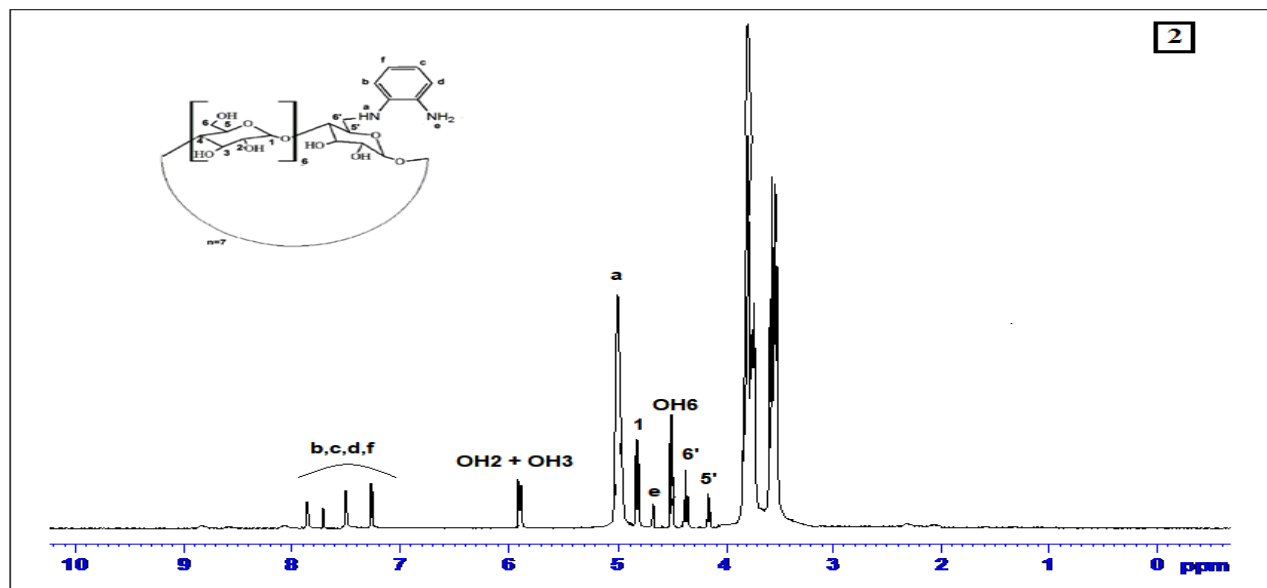
S5: FTIR spectra of Co(II) complexes of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand (5a)



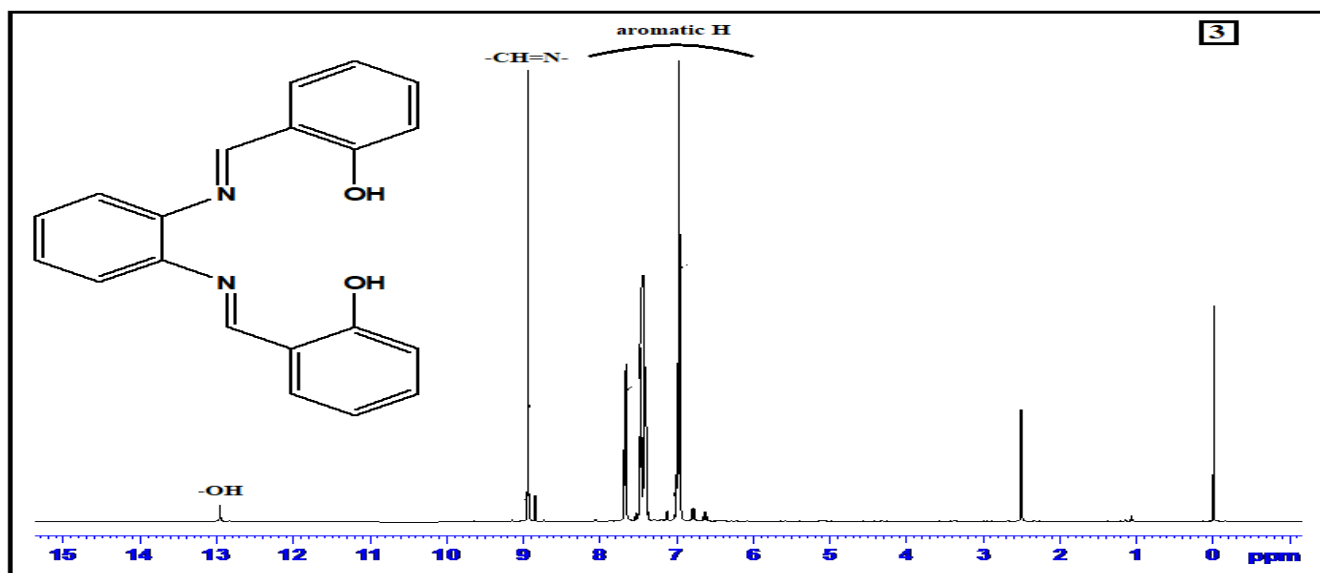
S6: FTIR spectra of Cu(II) complex of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand (5b)



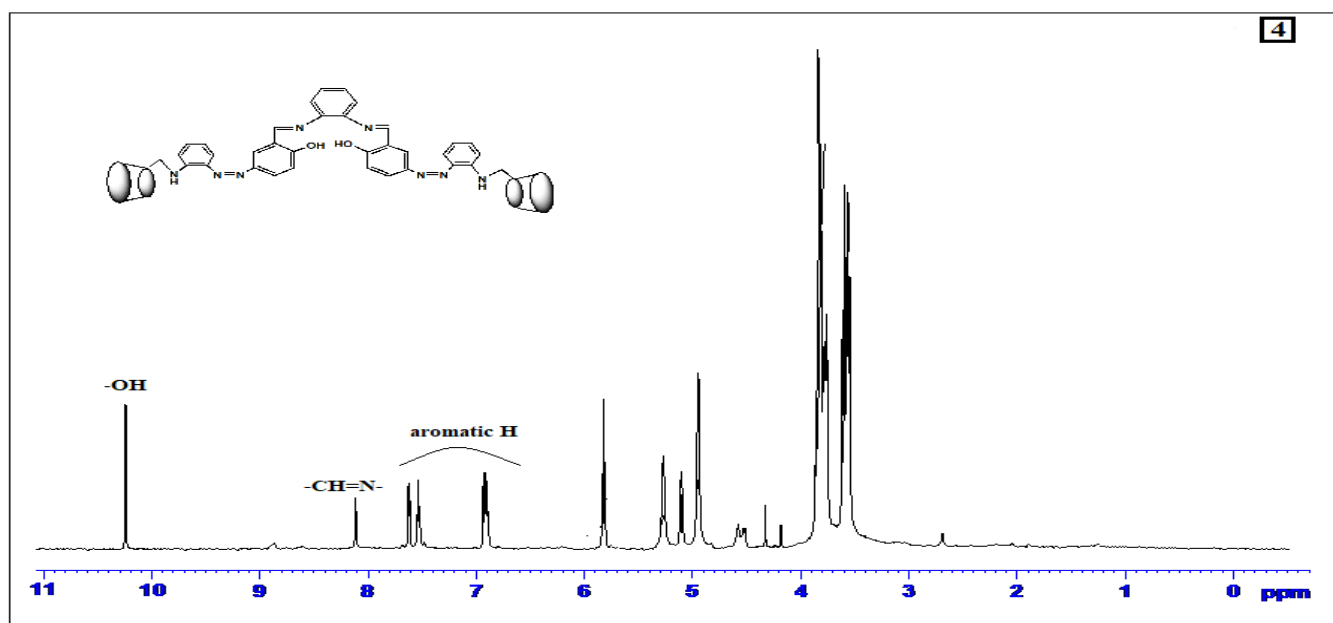
S7. <sup>1</sup>H-NMR of Mono-6-deoxy-6-(p-tosylsulfonyl)- $\beta$ -cyclodextrin ( $\beta$ -CDOTs) (1).



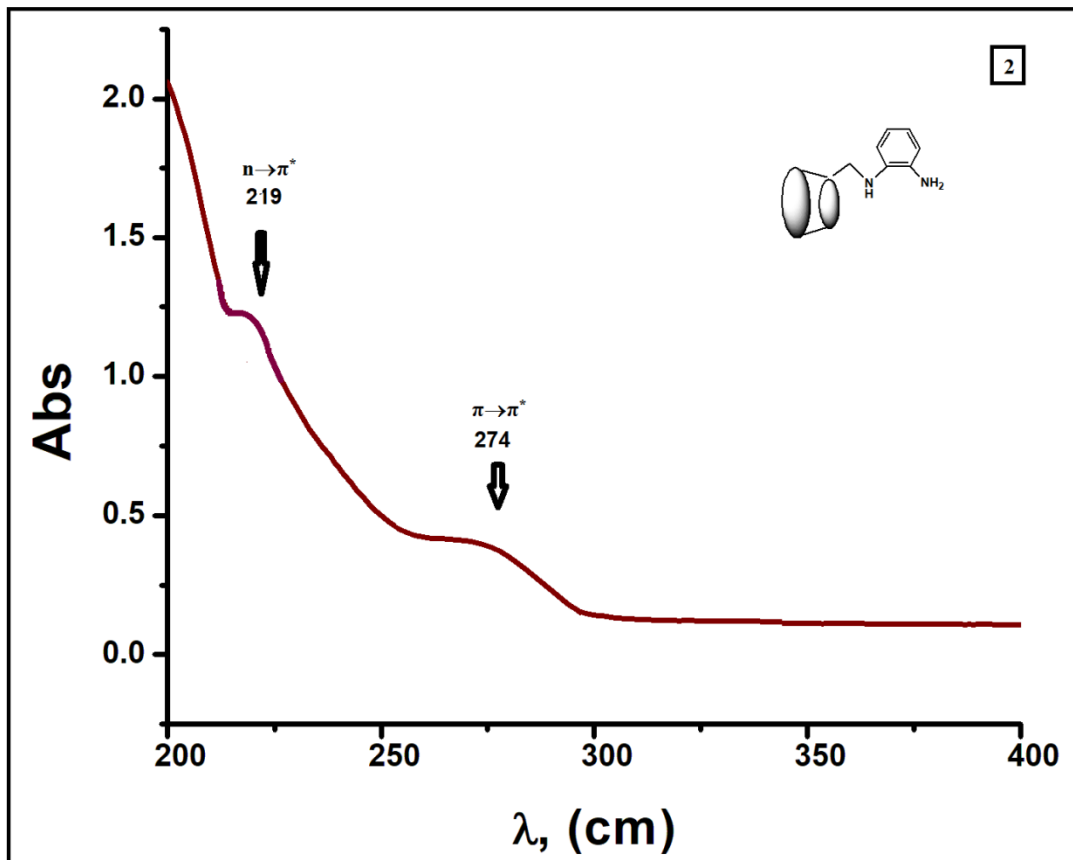
S8. <sup>1</sup>H-NMR of Mono-6-deoxy-6-(1,2-diamino)- $\beta$ -cyclodextrin (2)



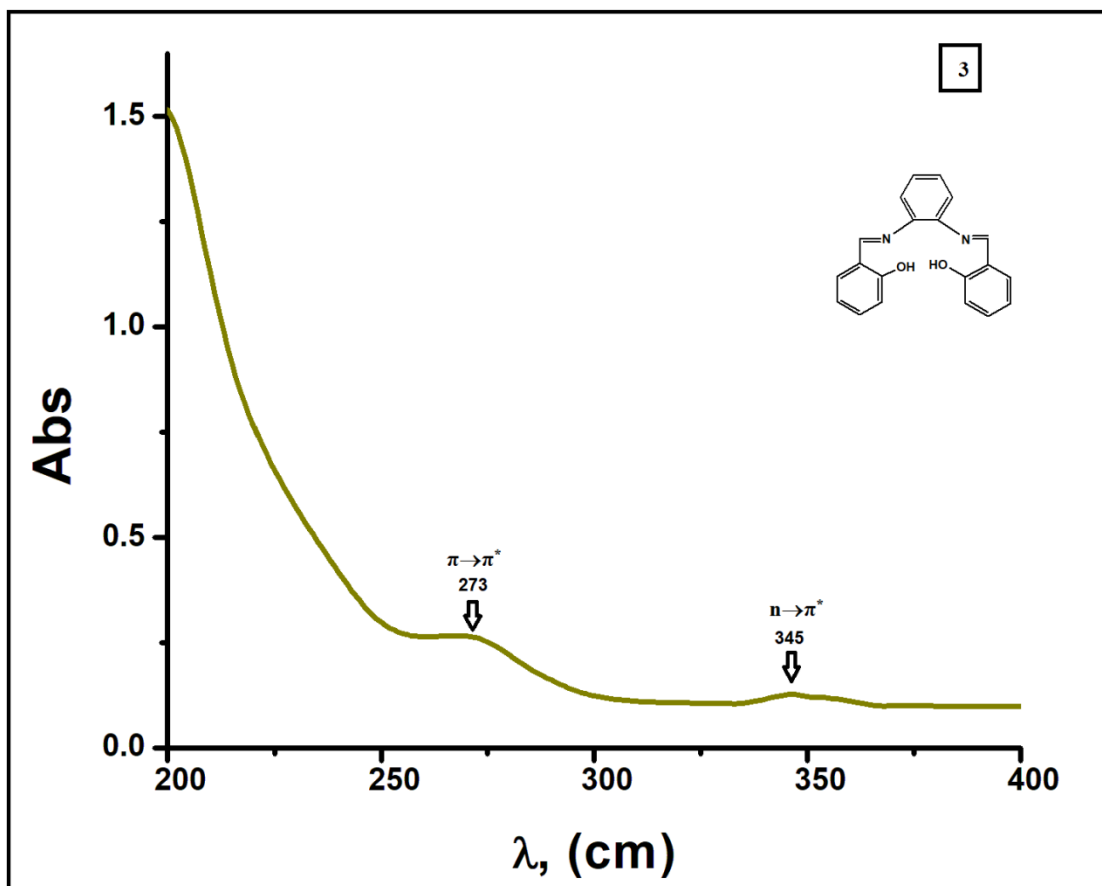
S9.  $^1\text{H-NMR}$  of Schiff base (3).



S10.  $^1\text{H-NMR}$  of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand(4).

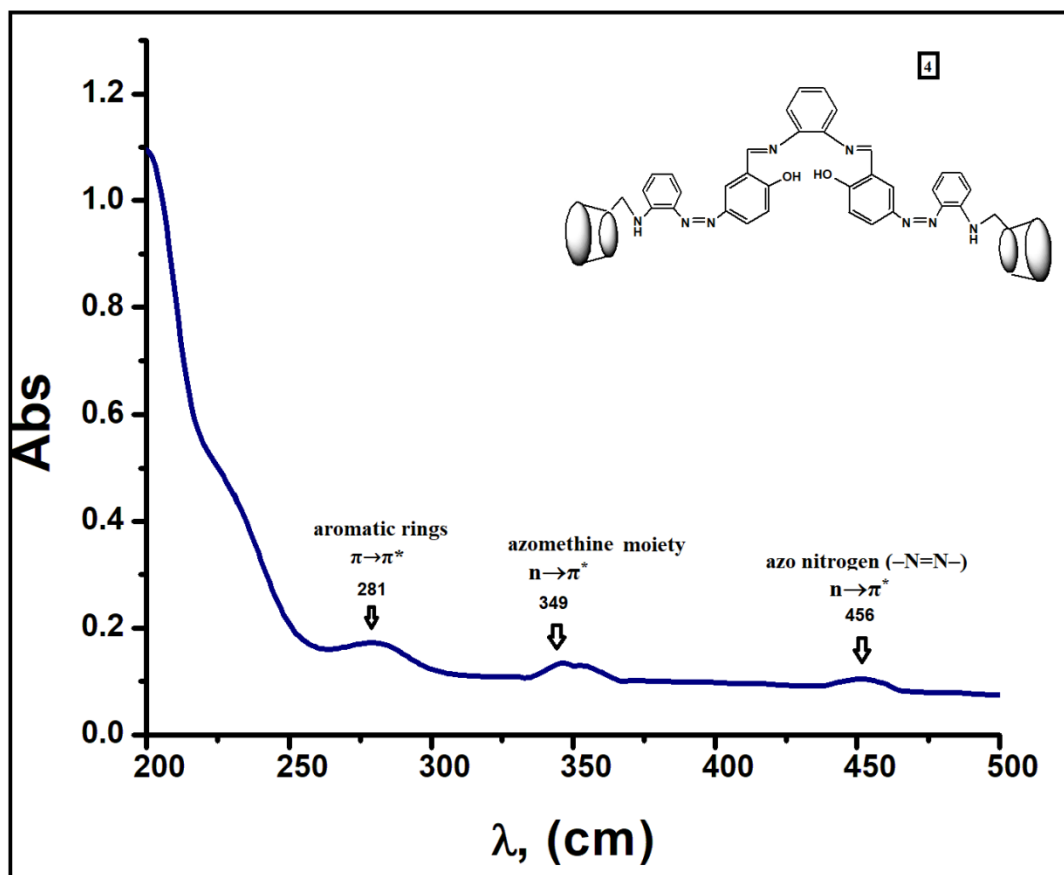


S11. Absorption spectra of Mono-6-deoxy-6-(1,2-diamino)-β-cyclodextrin (2)

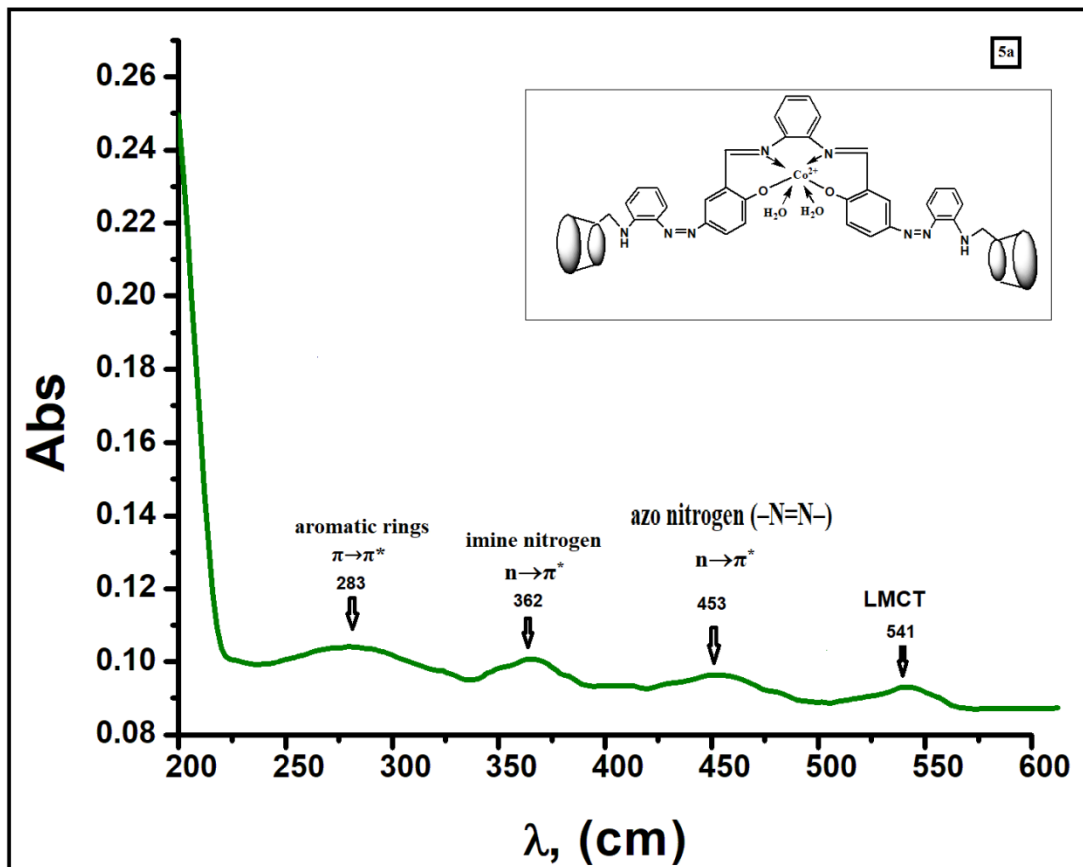


S12. Absorption spectra of Schiff base (3).

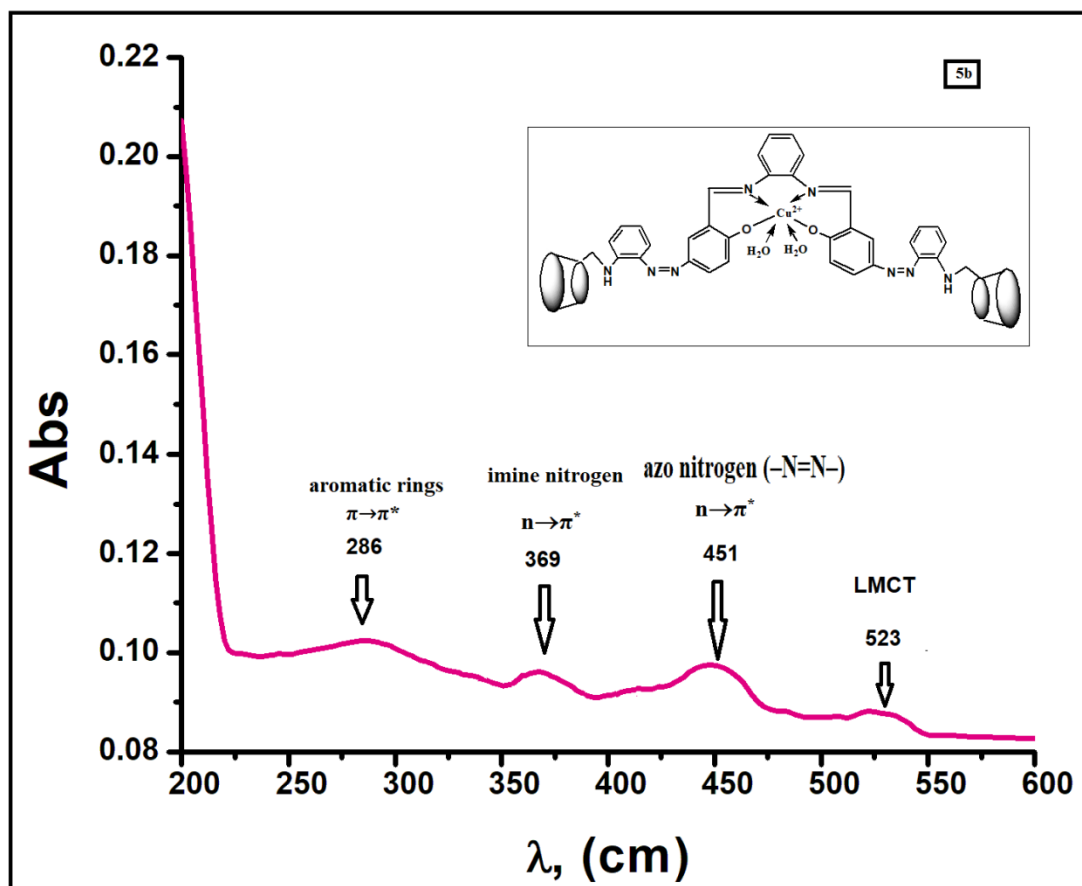




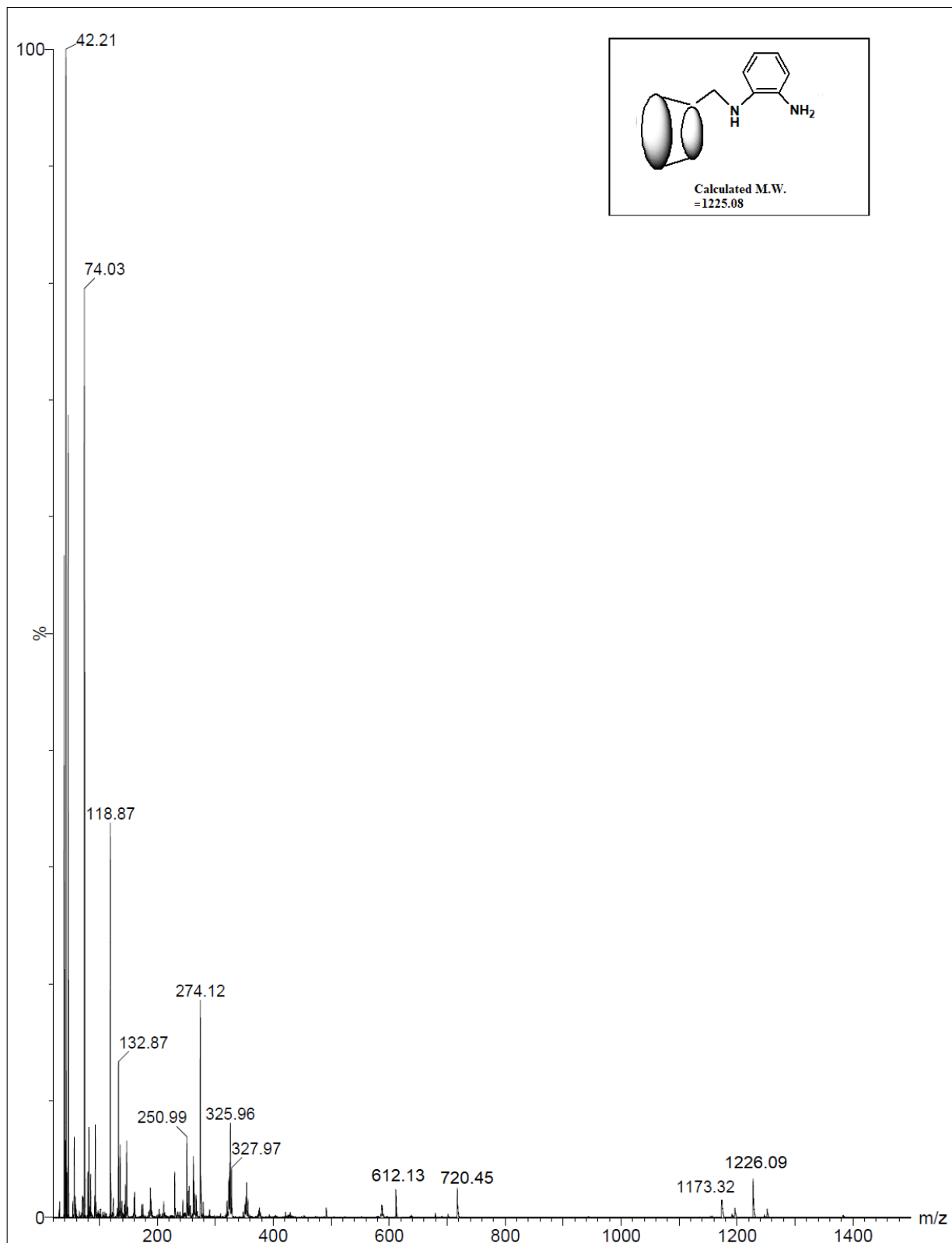
S 13: Absorption spectra of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand(4)



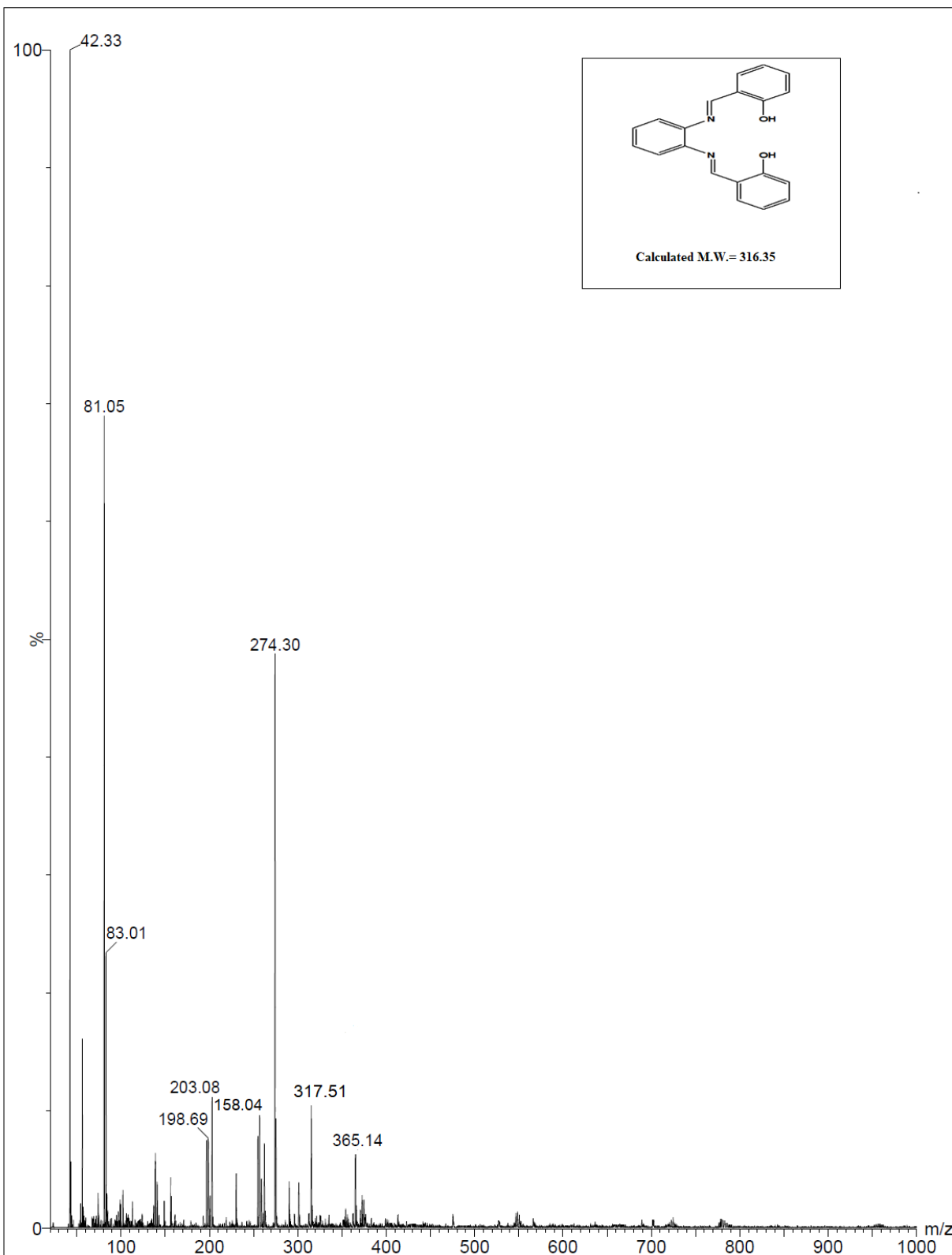
S 14: Absorption spectra of Co(II) complexes of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand (5a)



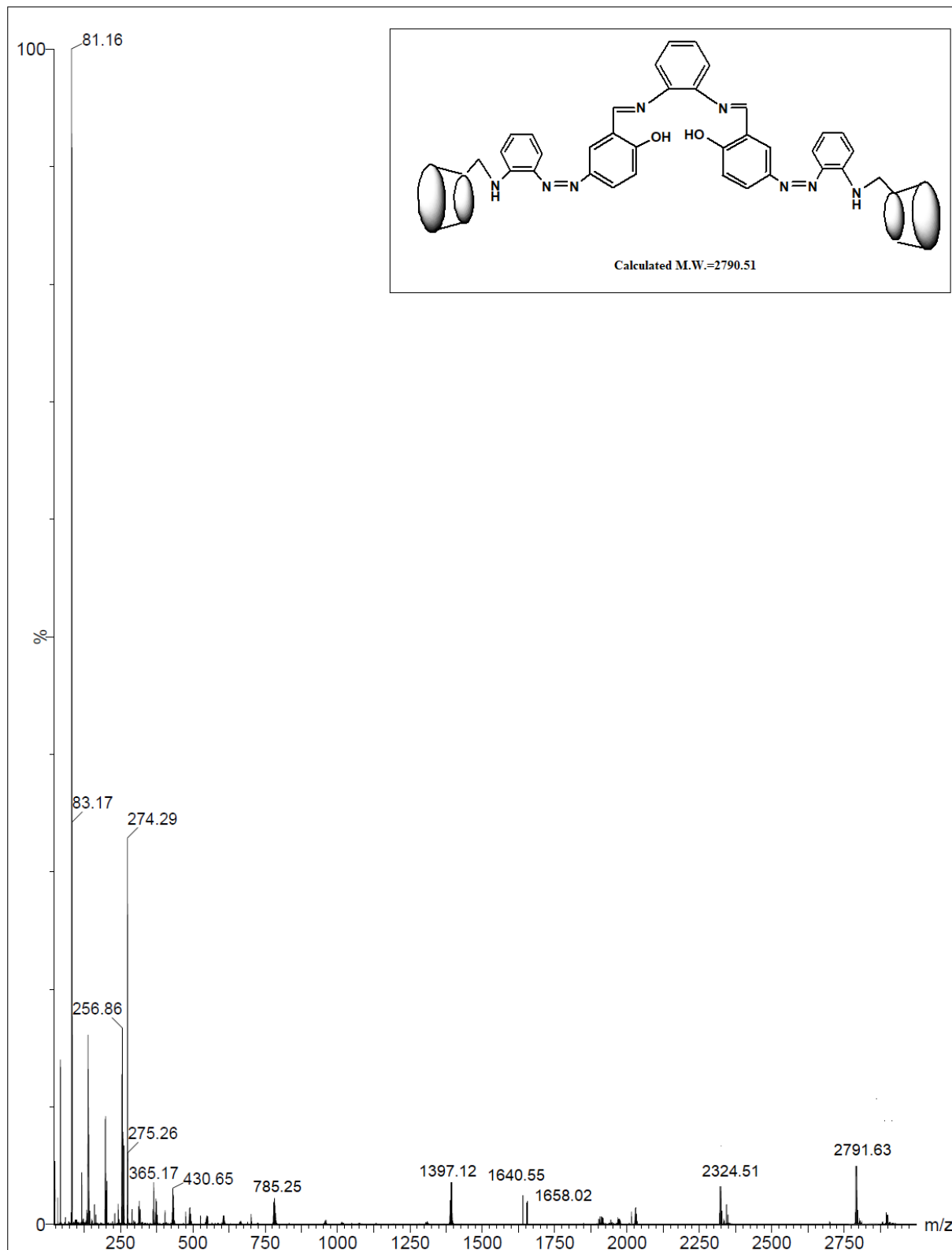
S15: Absorption spectra of Cu(II) complexes of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand (5b).



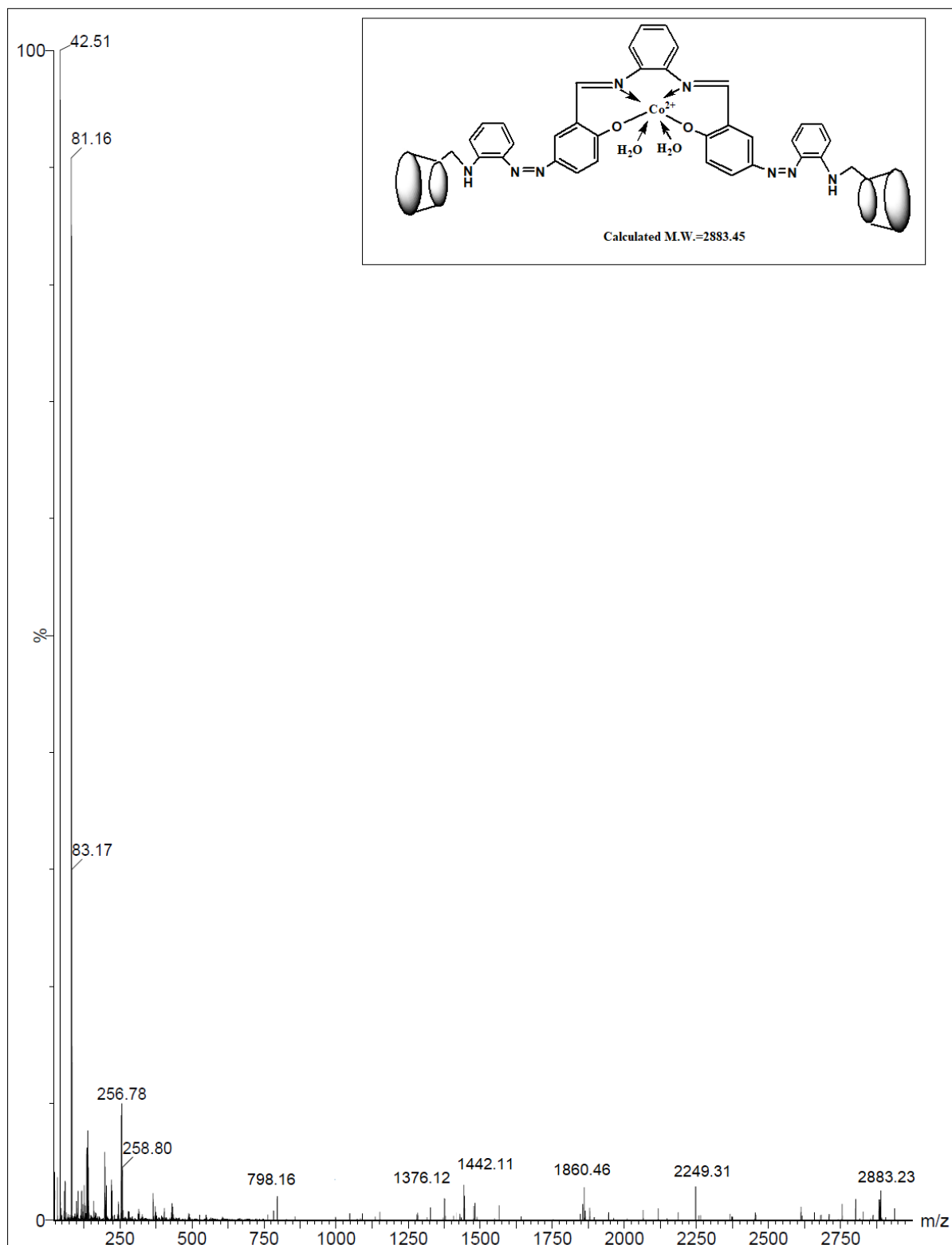
S16. ESI-MS spectra of mono-6-deoxy-6-(1,2-diamino)- $\beta$ -cyclodextrin (2).



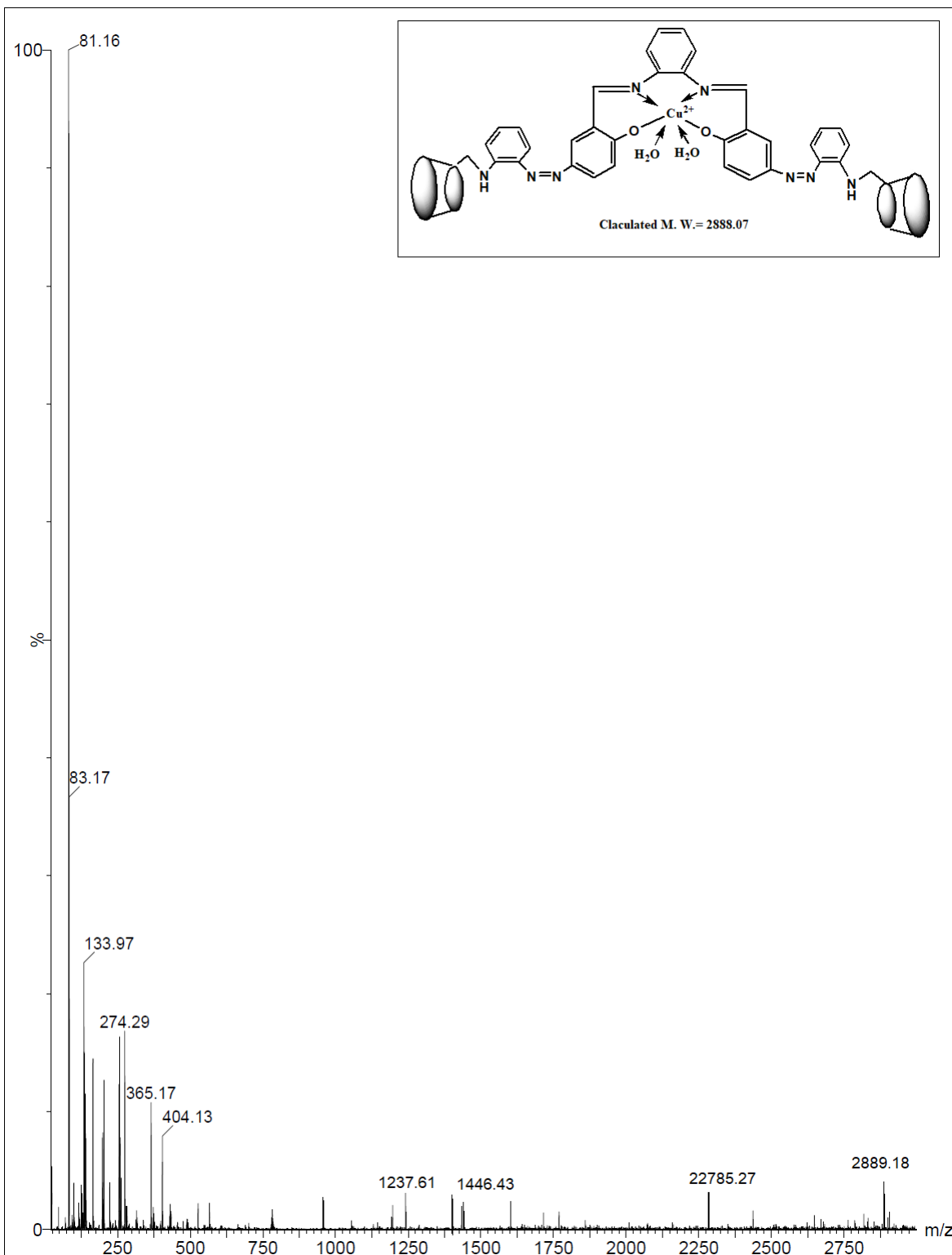
S17. ESI-MS spectra of Schiff base (3).



S18. ESI-MS spectra of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand(4).

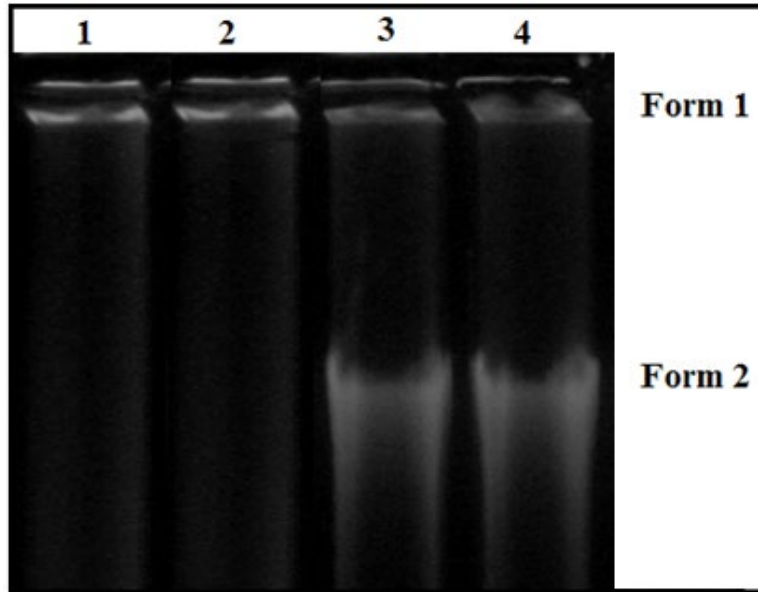


S19. ESI-MS spectra of Co(II) complex amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand (5a).



S20. ESI-MS spectra of Cu(II) complex of amino modified  $\beta$ -cyclodextrin supported azo Schiff base ligand (5b).





S21. Changes in the agarose gel electrophoretic pattern of pBR322 plasmid DNA induced by  $H_2O_2$  for Co(II) complex (5a) and Cu(II) complex (5b). Lane (1): DNA control, Lane (2): DNA +  $H_2O_2$ , Lane (3): DNA+ Co(II) complex (5a) +  $H_2O_2$ , (4): DNA+ Cu(II) complex (5b) +  $H_2O_2$ .