

Appendix A. Supplementary Information for

Chromium scavenging ability of Silver Nanoparticles in Human Erythrocytes, real samples and its effect on Catalase Enzyme.

Wasia Rasheed^a, Muhammad Raza Shah^{*b}, Mehdi Hasan Kazmi^a, Tabassum Mahboob^c, Madiha Rehman^c

^a Department of Applied Chemistry and Chemical Technology, University of Karachi, Karachi 75270, Pakistan

^b H.E.J. Research Institute of Chemistry, International Centre for Chemical and Biological Sciences, University of Karachi, Karachi 75270, Pakistan

^c Department of Biochemistry, University of Karachi, Karachi 75270, Pakistan

Contents

FTIR spectrum of 6-aminopenicillanic acid (Figure S1) -----	page S2
FTIR spectrum of 6APA-AgNPs (Figure S2) -----	page S3
Effect of high ionic strength environment on SPR of 6APA-AgNPs (Figure S3) -----	page S4
Effect of storage period of 20 days on SPR of 6APA-AgNPs (Figures S4) - -----	page S4
Effect of heating on SPR of 6APA-AgNPs (Figure S5)-----	page S5
Benesi-Hildebrand plot of equation 1 (Figure S6) -----	page S6
Benesi-Hildebrand plot of equation 2 (Figure S7) -----	page S6
Effect of various pH on SPR of 6APA-AgNPs (Figures S8) - -----	page S7
Spectral response of 6APA-AgNPs-Cr (VI) complex at various pH (Figure S9) -----	page S7
FTIR spectrum of 6APA-AgNPs-Cr (VI) complex(Figure S10)-----	page S8

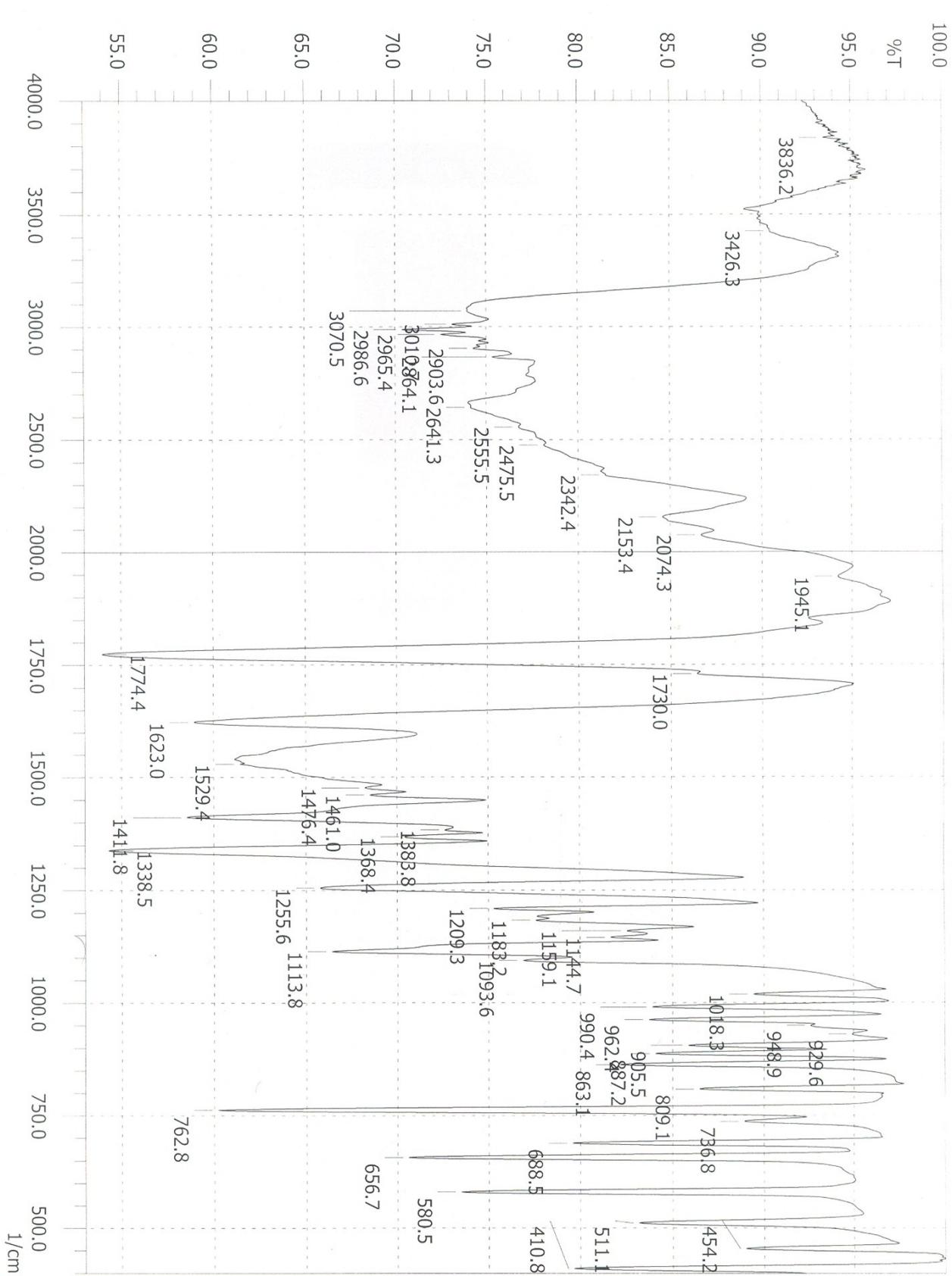


Fig. S1: Fourier Transform infrared spectrum of 6-aminopenicillanic acid.

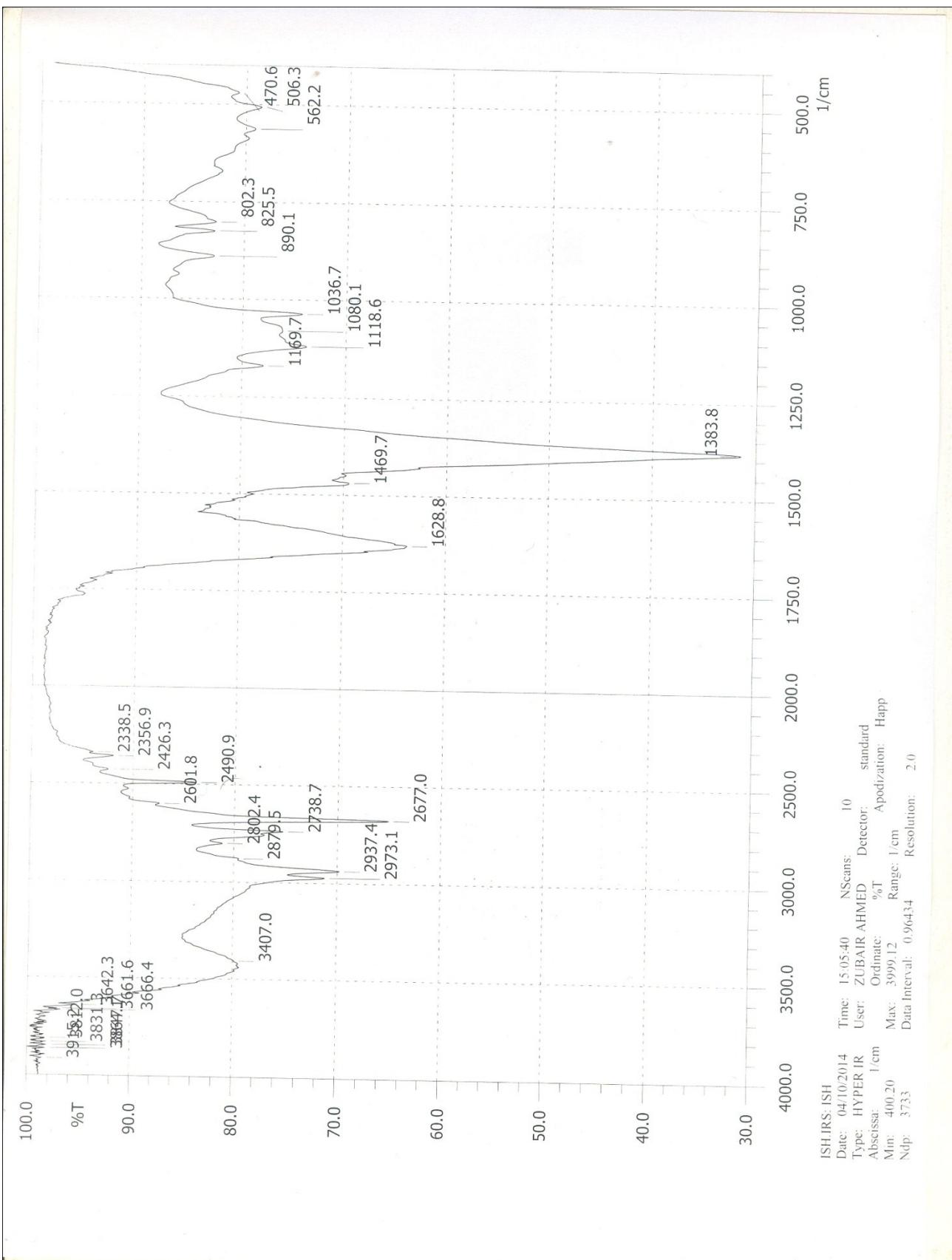


Fig. S2: Fourier Transform infrared spectrum of freeze dried 6APA-AgNPs separated from the mother liquor after centrifugation at 15000 rpm for 30 minutes.

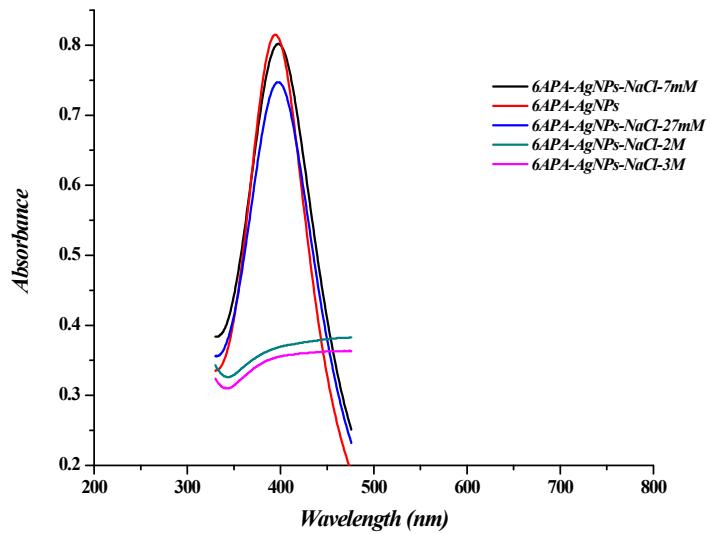


Figure S3: Modulation of absorption spectrum of synthesized functional conjugates of silver with 6-aminopenicillanic acid (150 μM) upon the addition of 7 and 27 mM, 2 and 3 M of NaCl in water.

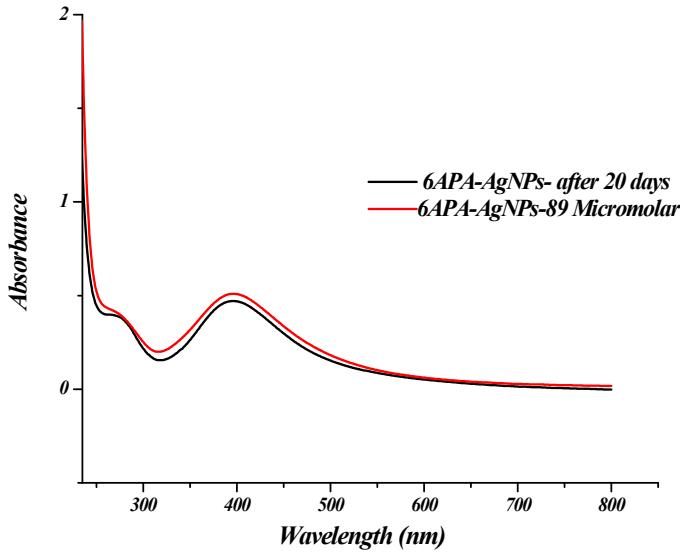


Figure S4: Modulation in Surface plasmon resonance of 6APA-AgNPs on storage for 20 days.

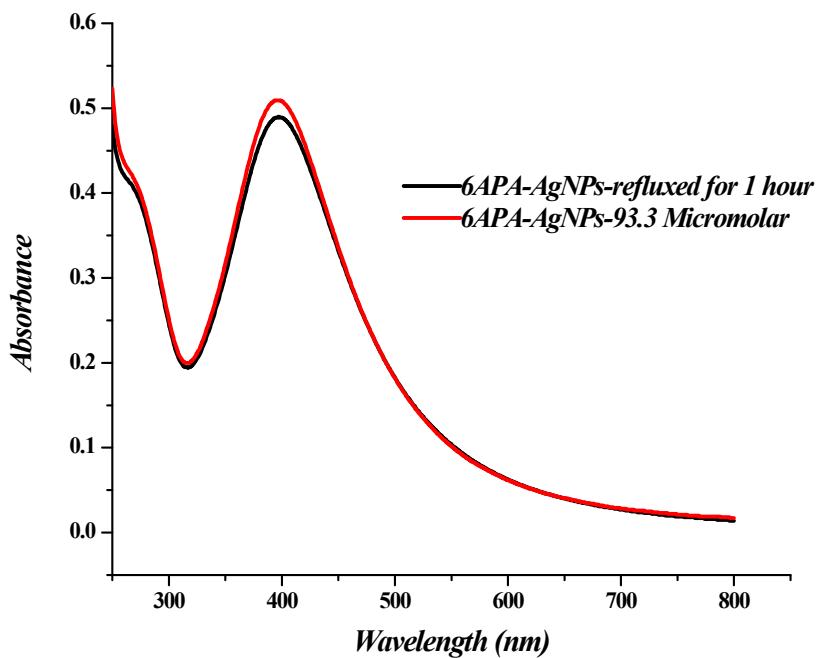


Figure S5: Modulation in Surface plasmon resonance of 6APA-AgNPs on refluxing the freshly prepared sample for 1 hour.

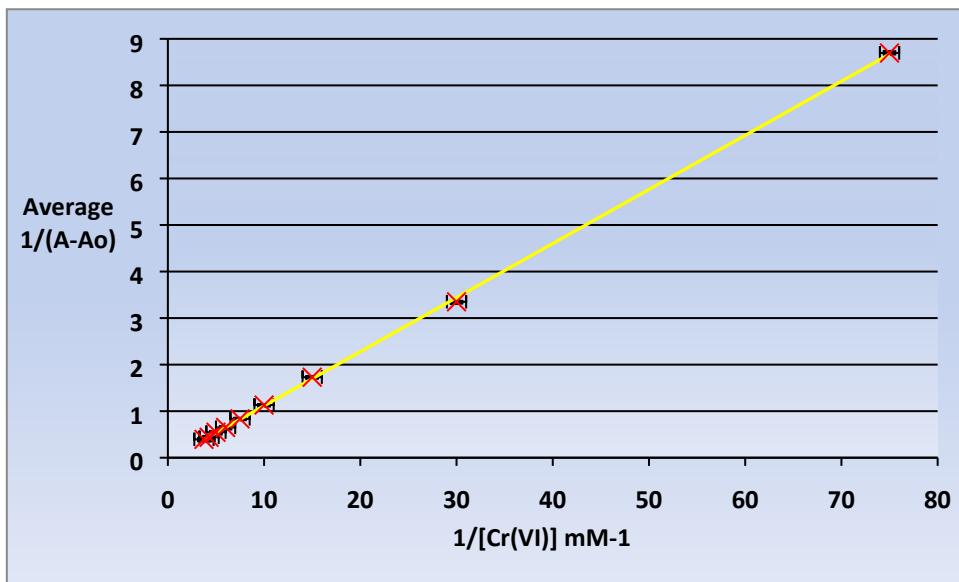


Figure S6: Benesi-Hildebrand plot for 1:1 complexation of 6APA-AgNPs (133.3 μM) with Cr(VI). All values are expressed as mean \pm Standard Deviation. Error bar represents the standard deviation for three readings.

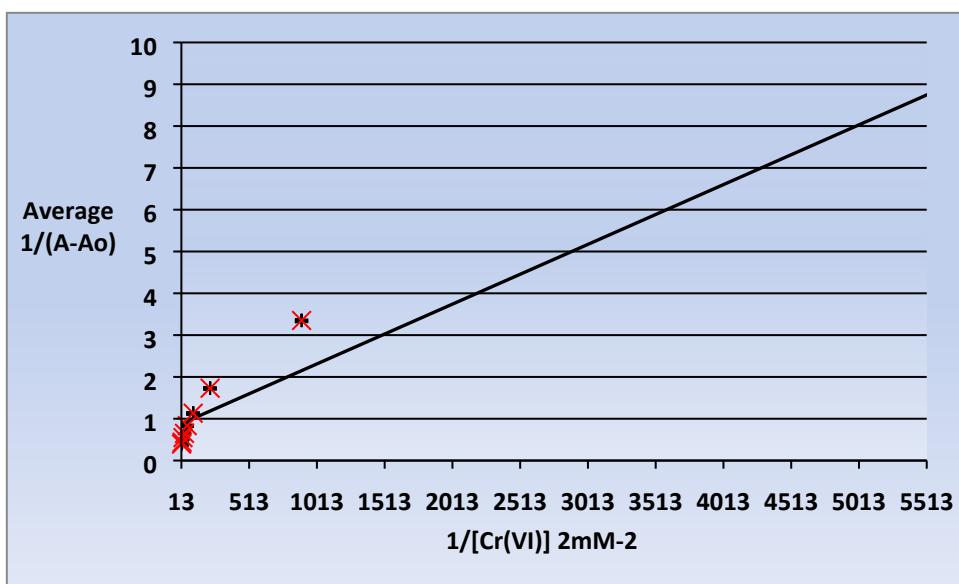


Figure S7: Benesi-Hildebrand plot for 1:2 complexation of 6APA-AgNPs (133.3 μM) with Cr(VI). The association constant evaluated by equation 2 is ($K = 862 \text{ M}^{-2}$). All values are expressed as mean \pm Standard Deviation. Error bar represents the standard deviation for three readings.

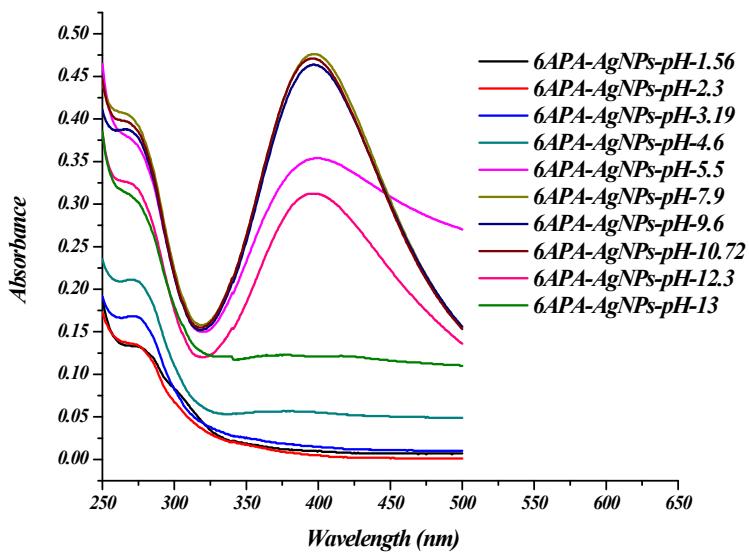


Figure S8: Modulation of surface plasmon resonance of functional conjugate of silver with 6-aminopenicillanic acid (142.8 μ M) at various pH.

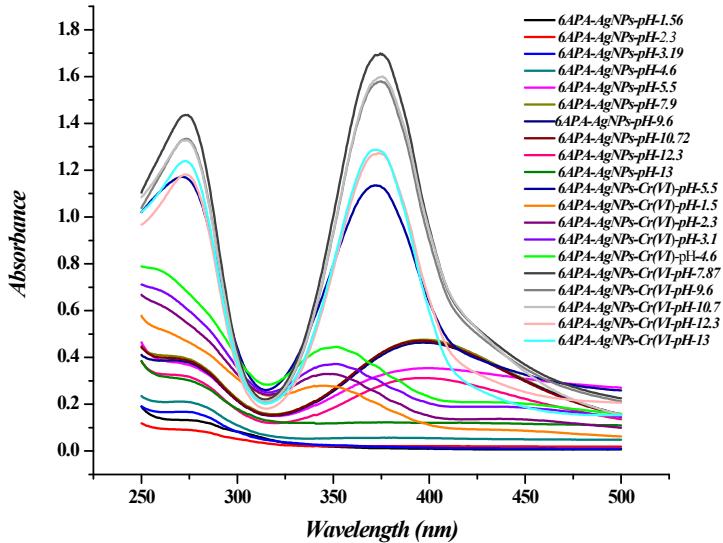


Figure S9: Spectral response of 6APA-AgNPs-Chromium (VI) complex at various pH.

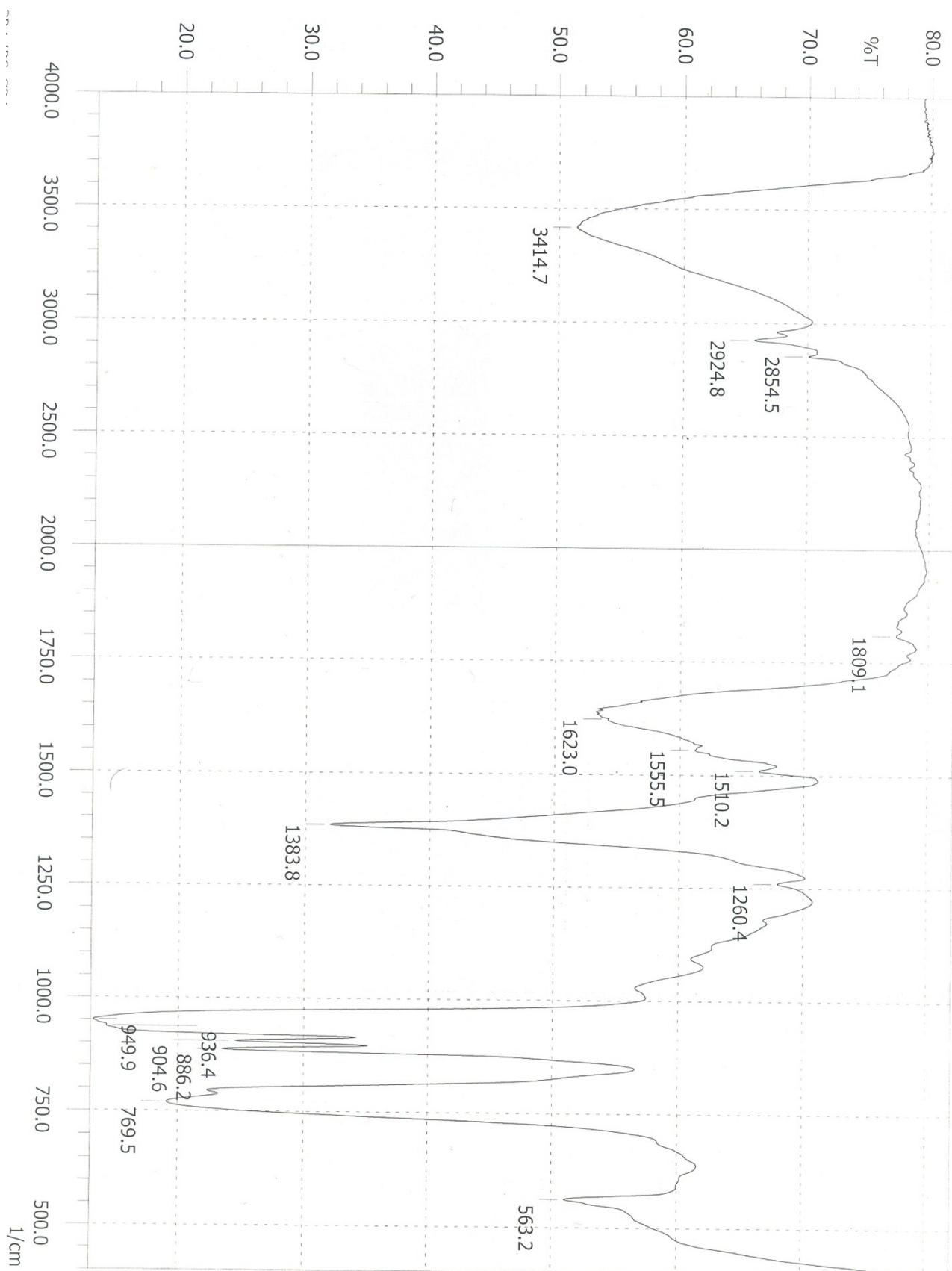


Fig. S10: Fourier Transform infrared spectrum of freeze dried 6APA-AgNPs-Cr (VI) complex separated from the mother liquor after centrifugation at 15000 rpm for 30 minutes.

