

# Ag and Au Nanoparticles: Green Synthesis, Catalytic and Bacterial Activity Studies

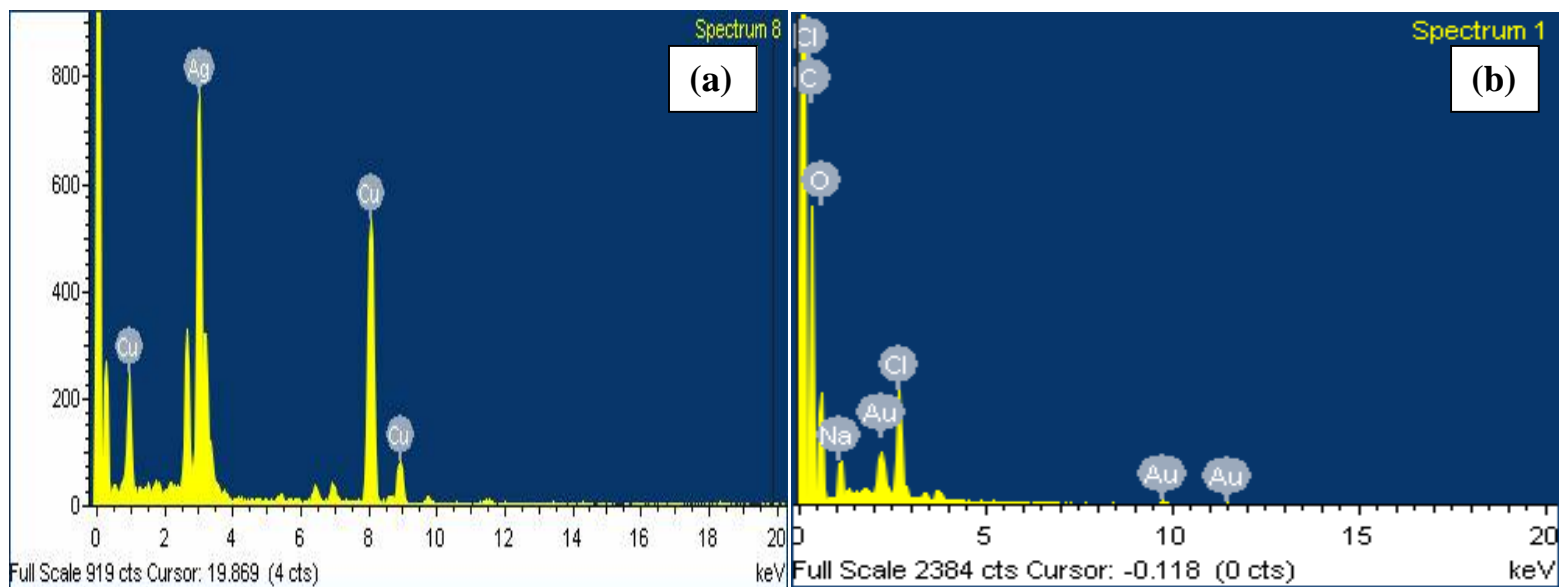
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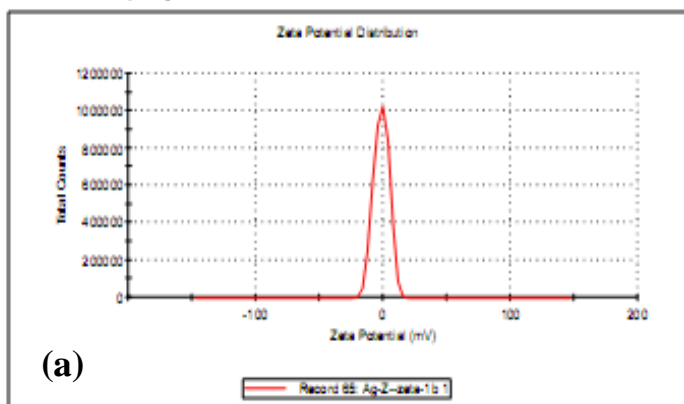


**Figure S1.** The optical absorption spectrum at 3 keV indicating the presence of metallic silver (a) and absorption spectrum at 2 keV indicates the presence of metallic gold (b).

**Results**

	Mean (mV)	Area (%)	Width (mV)
Zeta Potential (mV): -1.46	Peak 1: -1.46	100.0	5.99
Zeta Deviation (mV): 5.99	Peak 2: 0.00	0.0	0.00
Conductivity (mS/cm): 0.0655	Peak 3: 0.00	0.0	0.00

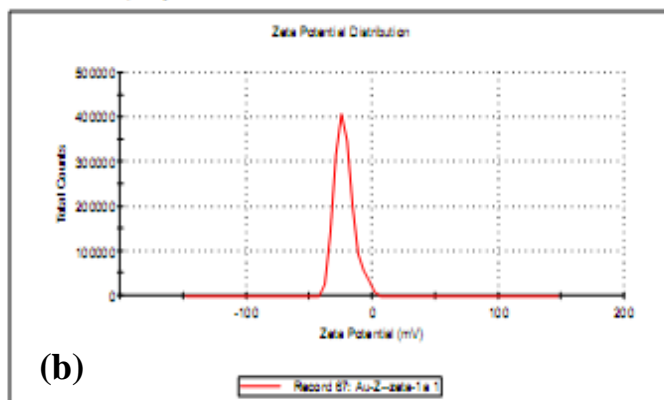
Result quality **Good**



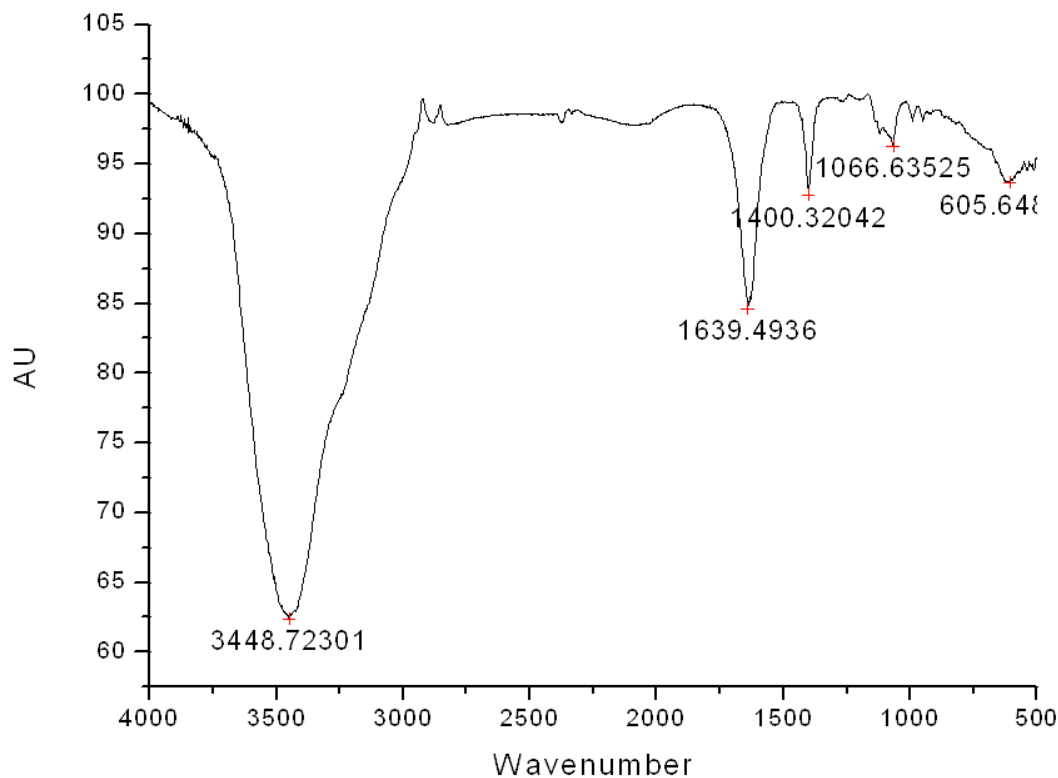
**Results**

	Mean (mV)	Area (%)	Width (mV)
Zeta Potential (mV): -22.3	Peak 1: -22.3	100.0	7.55
Zeta Deviation (mV): 7.55	Peak 2: 0.00	0.0	0.00
Conductivity (mS/cm): 0.0392	Peak 3: 0.00	0.0	0.00

Result quality **Good**



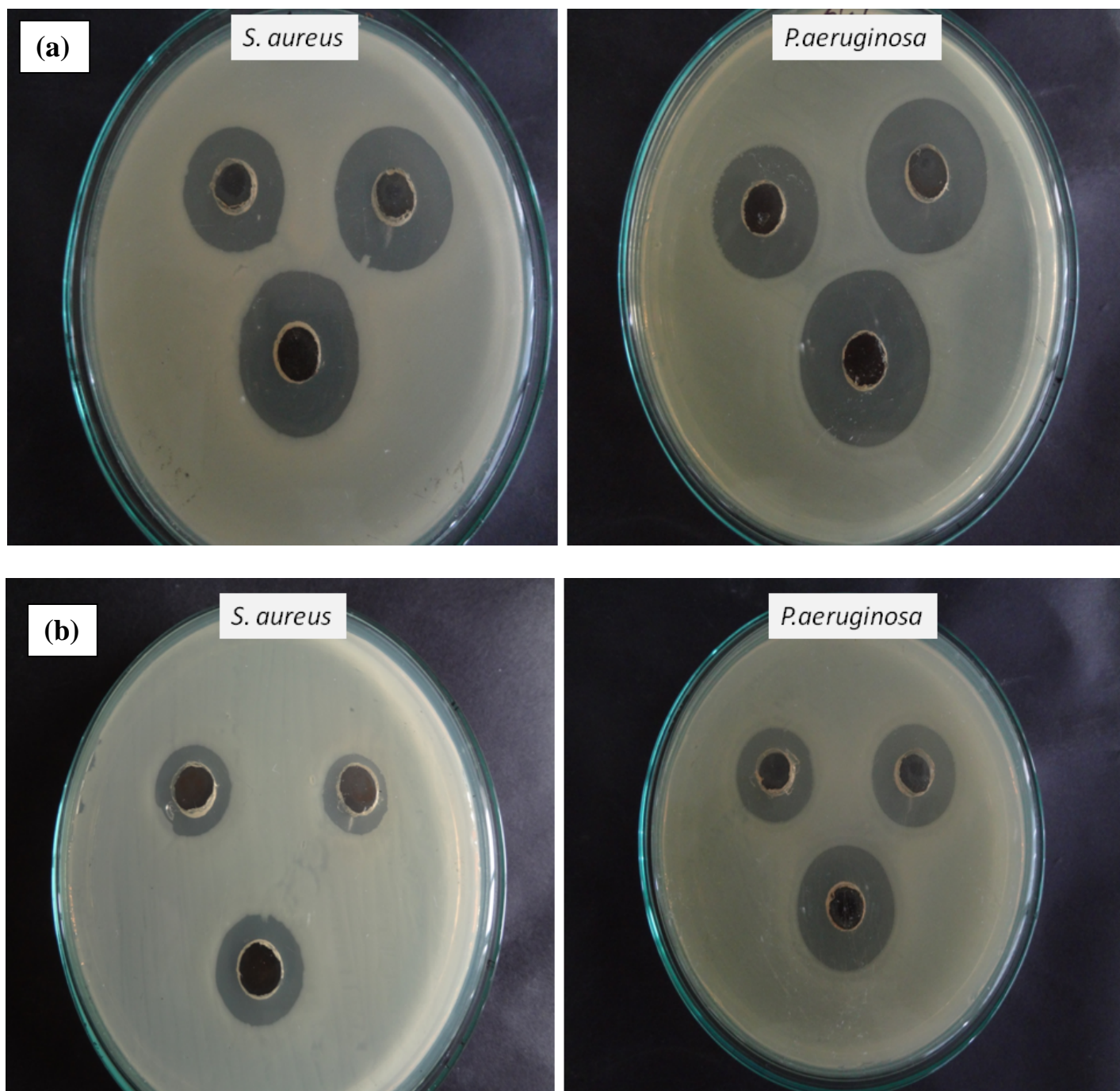
**Figure S2.** Zeta potential of (a) silver ( $S_1$ ) and (b) gold ( $G_1$ ) nanoparticles synthesized from  $1.0 \times 10^{-3} \text{M}$   $\text{AgNO}_3$  and  $\text{HAuCl}_4$  respectively.



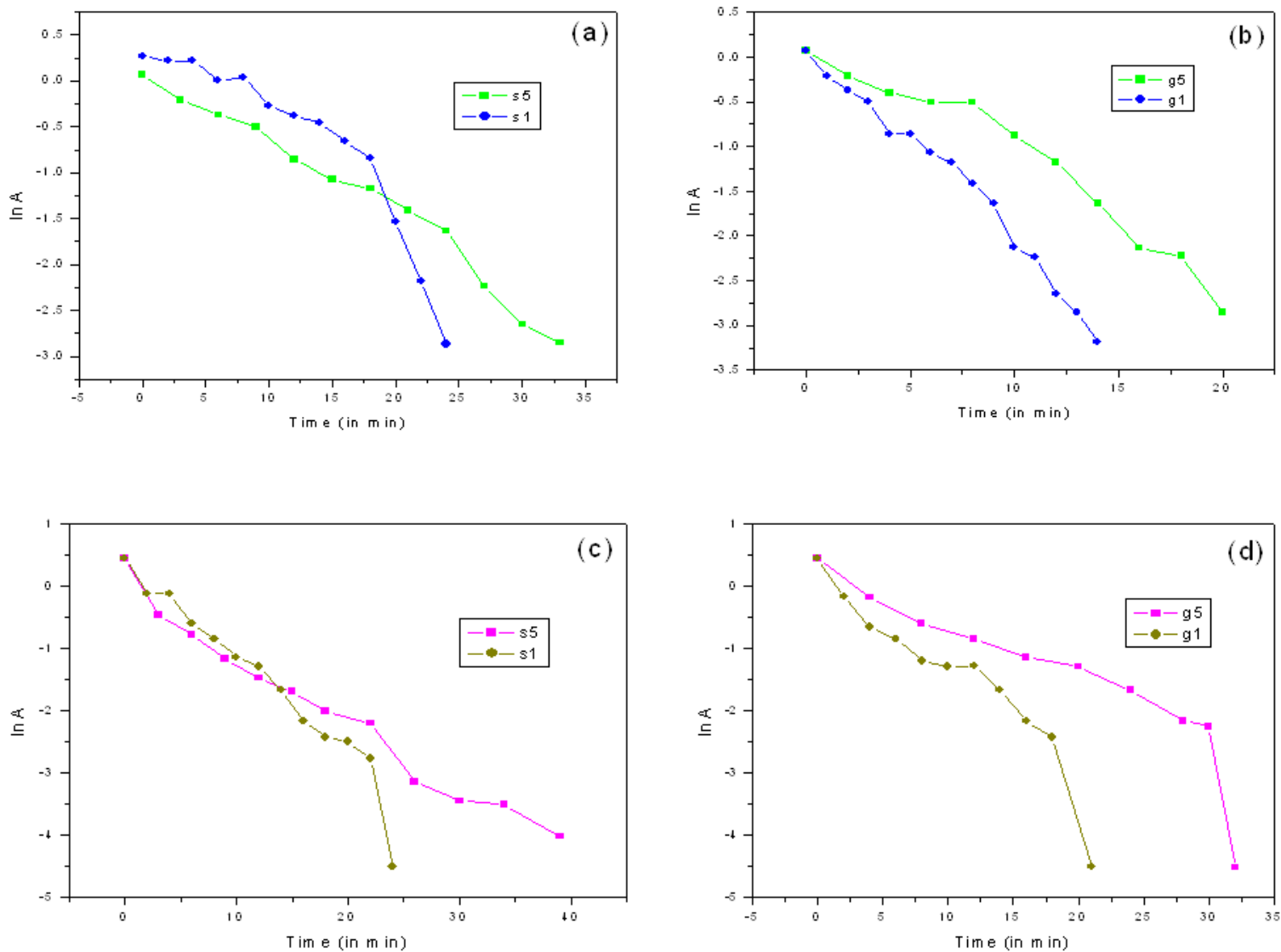
**Figure S3.** FT-IR spectrum of fruit extract.

**Table S1.** Bactericidal activity of silver and gold nanoparticles synthesized from  $1.0 \times 10^{-3}$  M  $\text{AgNO}_3$  ( $S_1$ ) and  $\text{HAuCl}_4$  ( $G_1$ ) respectively.

Name of the pathogen	Zone of inhibition for Ag NPs (in mm)			Zone of inhibition for Au NPs (in mm)		
	10 $\mu\text{L}$	20 $\mu\text{L}$	30 $\mu\text{L}$	10 $\mu\text{L}$	20 $\mu\text{L}$	30 $\mu\text{L}$
<i>P.aeruginosa</i>	20	25	27	15	16	21
<i>S.aureus</i>	18	20	20	12	17	20



**Figure S4.** (a) Antibacterial activity of silver NPs synthesized from  $1.0 \times 10^{-3} \text{M}$   $\text{AgNO}_3$  (S<sub>1</sub>) at 80 °C (b) activity of gold NPs synthesized from  $1.0 \times 10^{-3} \text{M}$   $\text{HAuCl}_4$  (G<sub>1</sub>) at 80 °C.



**Figure S5.** Comparative plots of  $\ln(A)$  vs  $t$  for (a)  $S_5$  &  $S_1$  (b)  $G_5$  &  $G_1$  towards the reduction of 4-NP. Comparative plots of  $\ln(A)$  vs  $t$  for (c)  $S_5$  &  $S_1$  (d)  $G_5$  &  $G_1$  towards the reduction of MB in the presence of  $\text{NaBH}_4$ .