nanomaterials

MDPI

Supplementary File

Synthesis of Au, Ag, and Au–Ag Bimetallic Nanoparticles Using *Pulicaria undulata* Extract and Their Catalytic Activity for the Reduction of 4-Nitrophenol

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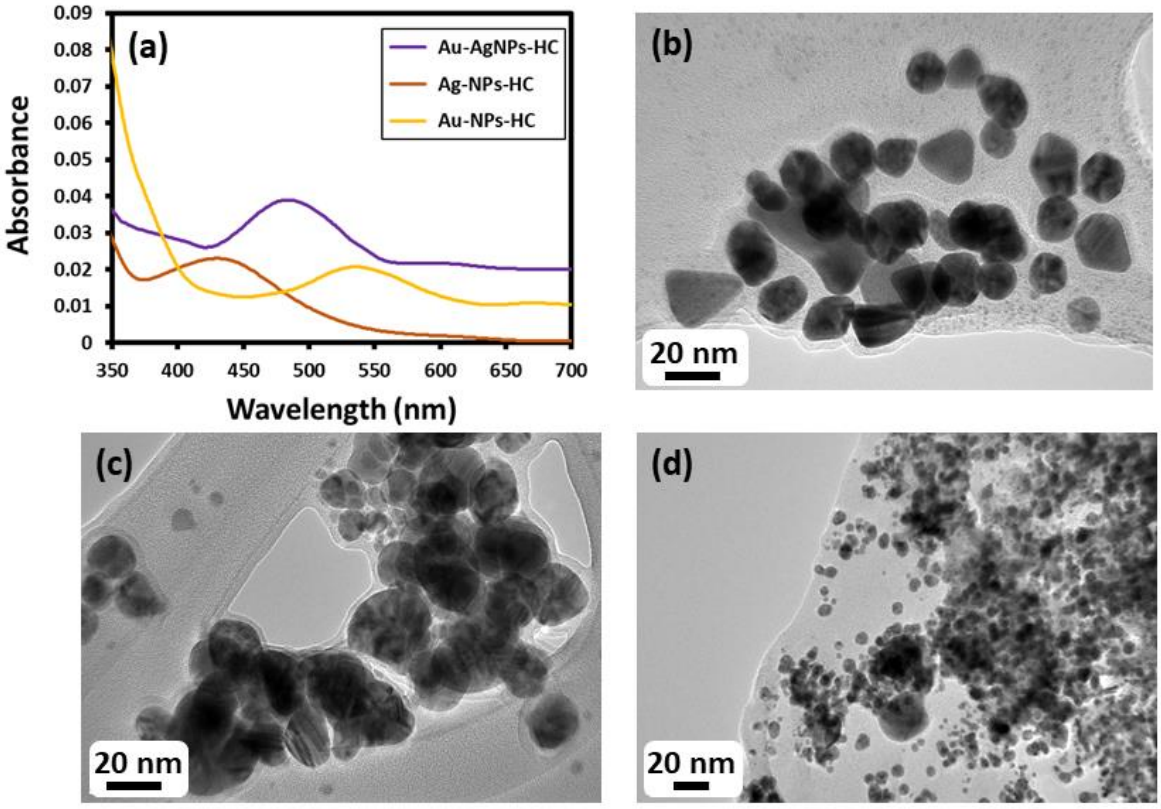

Figure S1: To confirm the reproducibility of experiments, Ag, Au and Au-Ag alloy nanoparticles has been reproduced using high concentration of plant extract from same batch. All the experiments were performed by the same procedure given in the experimental section 2.3 of the main-text. (a) UV spectra of Au, Ag and Au-Ag alloy nanoparticles, (b, c, d) high resolution TEM images of Au, Ag, and Au-Ag alloy nanoparticles.

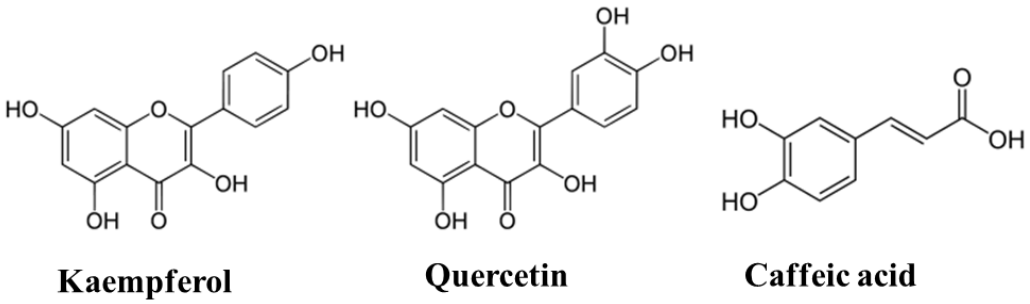

Figure S2: Chemical structures of some of the phytomolecules present in the *P. undulata* plant extract.

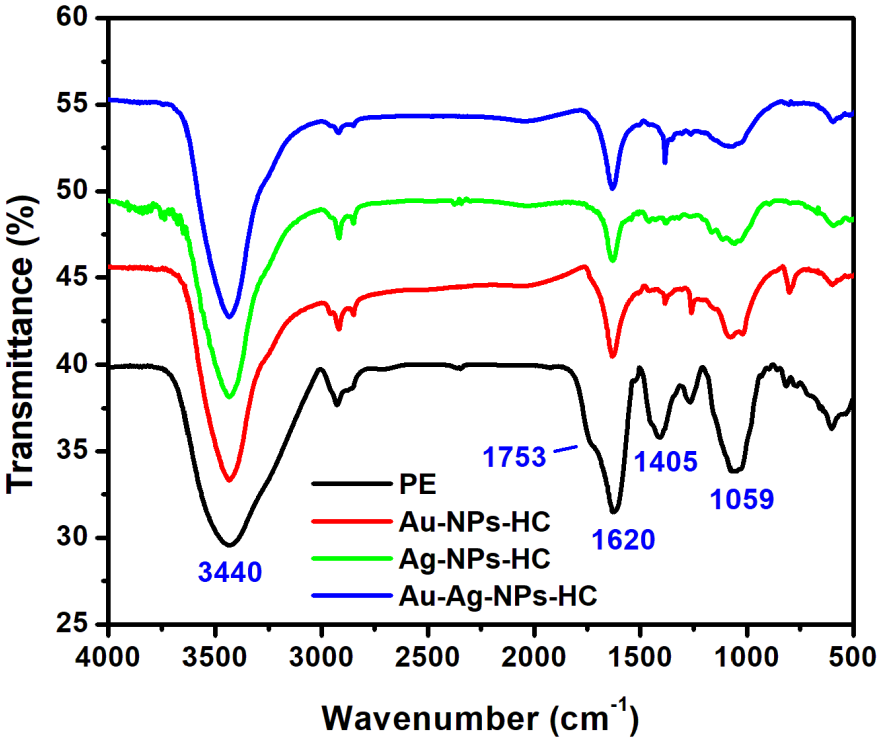

Figure S3: FT-IR spectra of pure PE and Ag, Au and Au-Ag alloy NPs prepared with a high (1:2) concentration of PE.

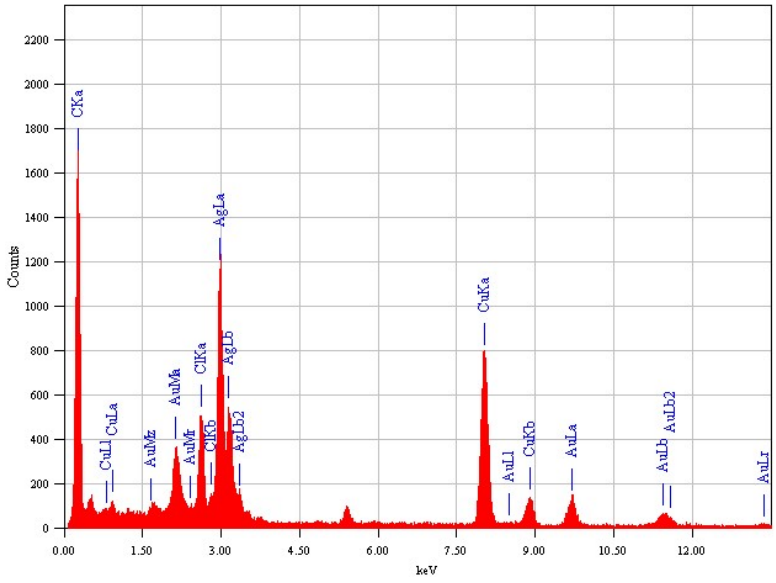

Figure S4: Energy dispersive X-ray spectrum of Au-Ag-alloy NPs using higher concentration (AuAg-HC) of PE.

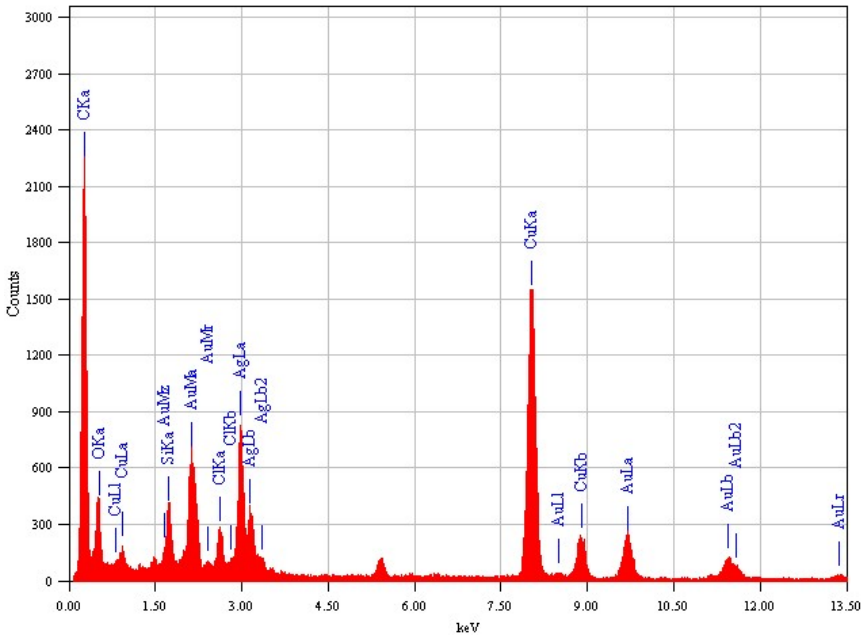

Figure S5: Energy dispersive X-ray spectrum of Au-Ag-bimetallic NPs using low concentration (AuAg-LC) of PE.

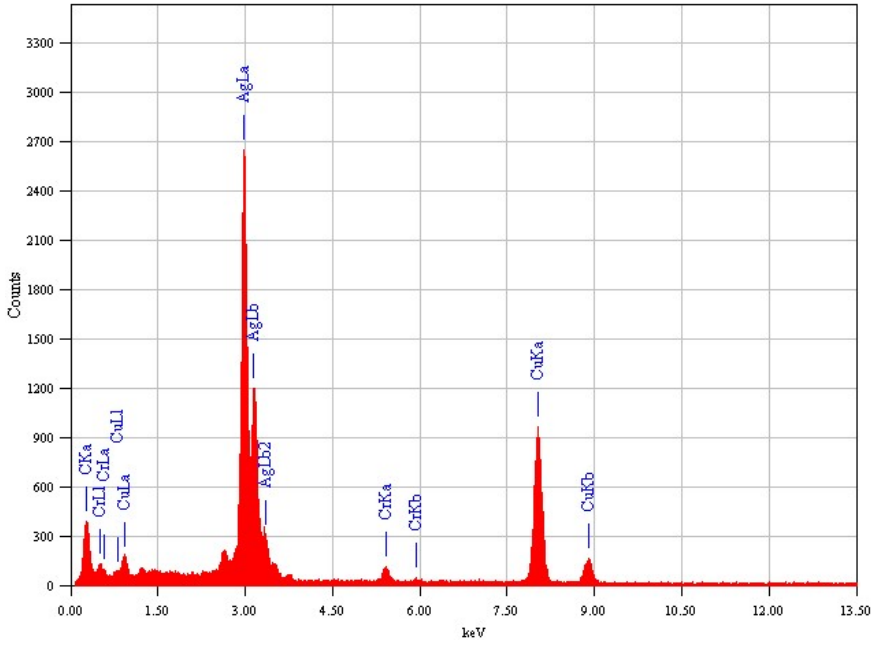

Figure S6: Energy dispersive X-ray spectrum of Ag NPs using higher concentration (Ag-HC) of PE.

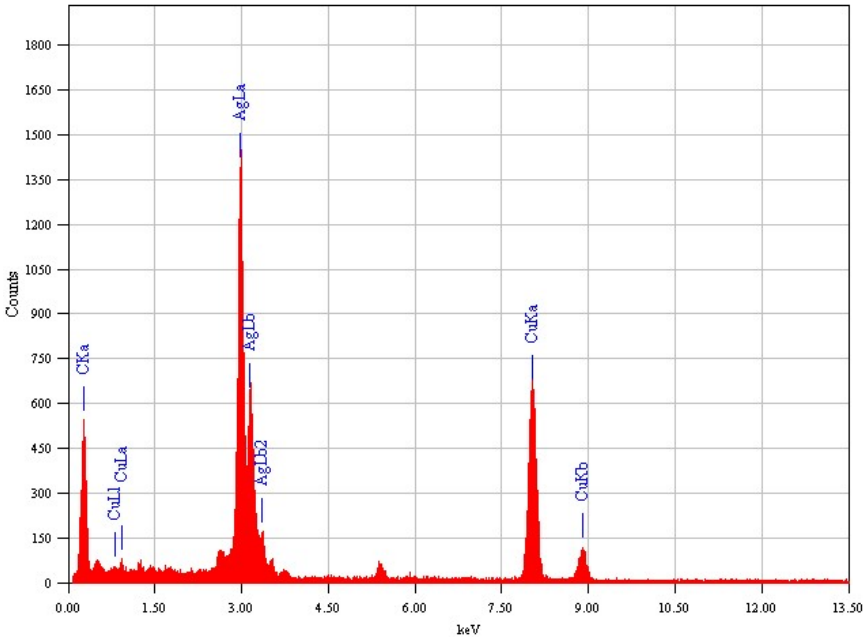

Figure S7: Energy dispersive X-ray spectrum of Ag NPs using low concentration (Ag-LC) of PE.

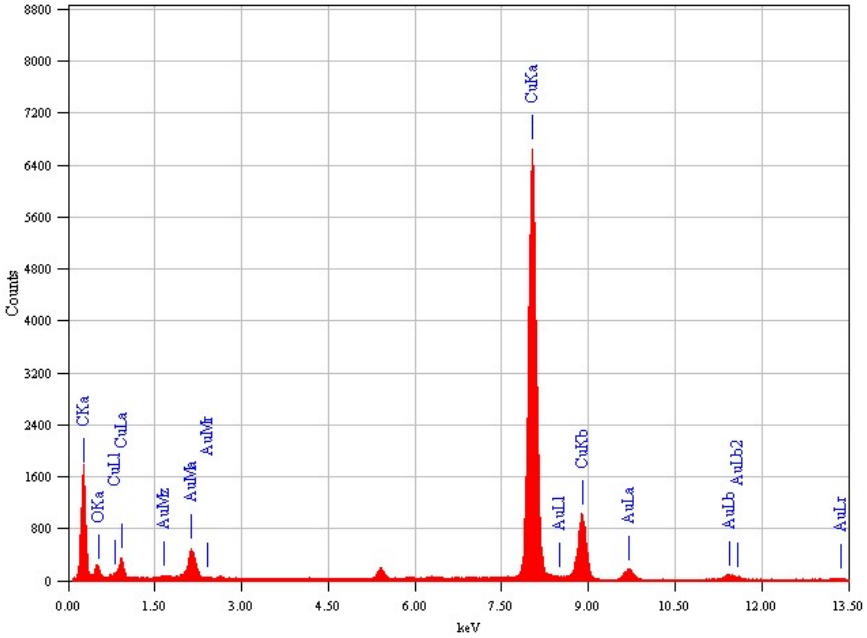

Figure S8: Energy dispersive X-ray spectrum of Au-NPs using higher concentration (Au-HC) of PE.

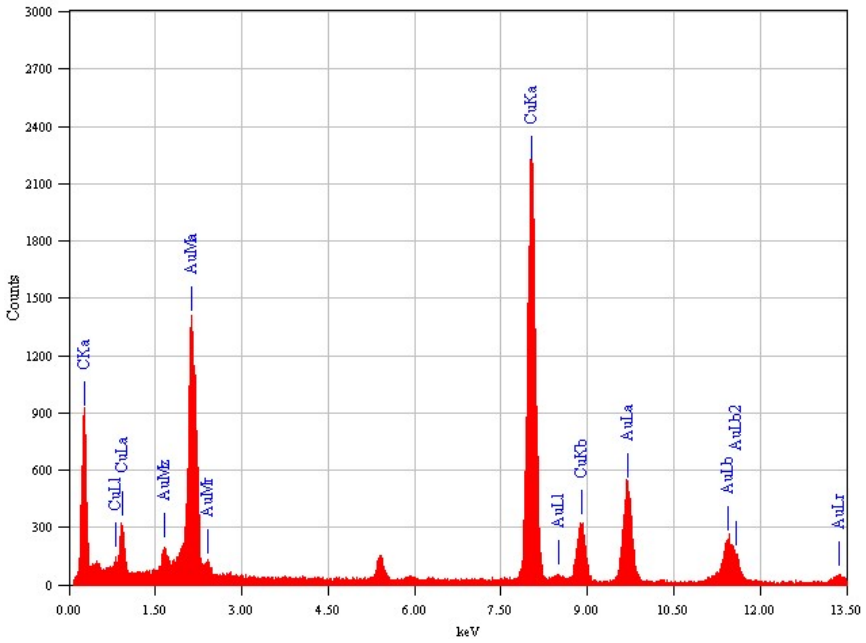

Figure S9: Energy dispersive X-ray spectrum of Au- NPs using low concentration (Au-LC) of PE.

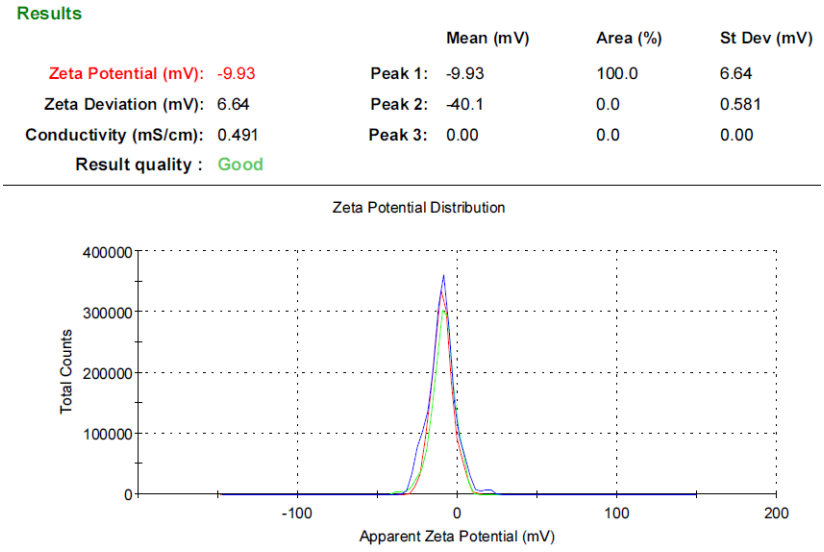

Figure S10: Zeta potential analysis of Au NPs using low concentration of plant extract.

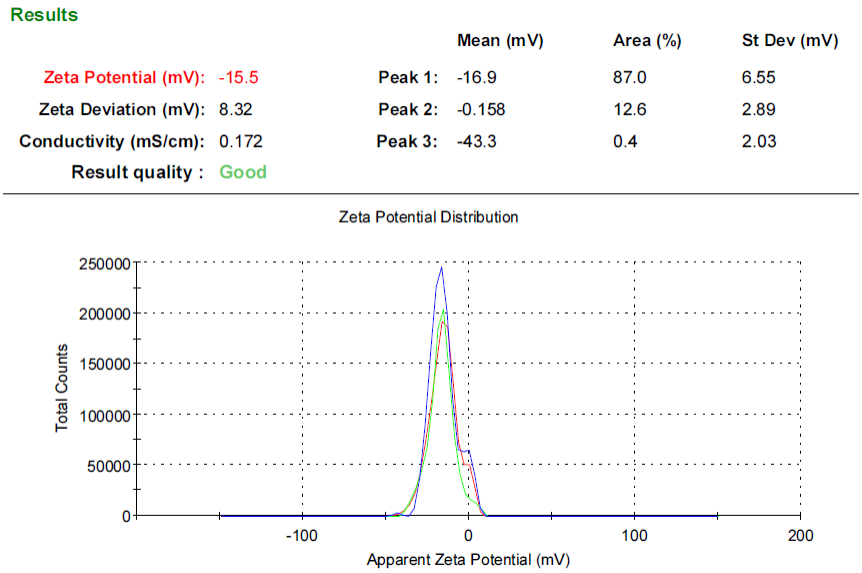

Figure S11: Zeta potential analysis of Ag NPs using low concentration of plant extract.

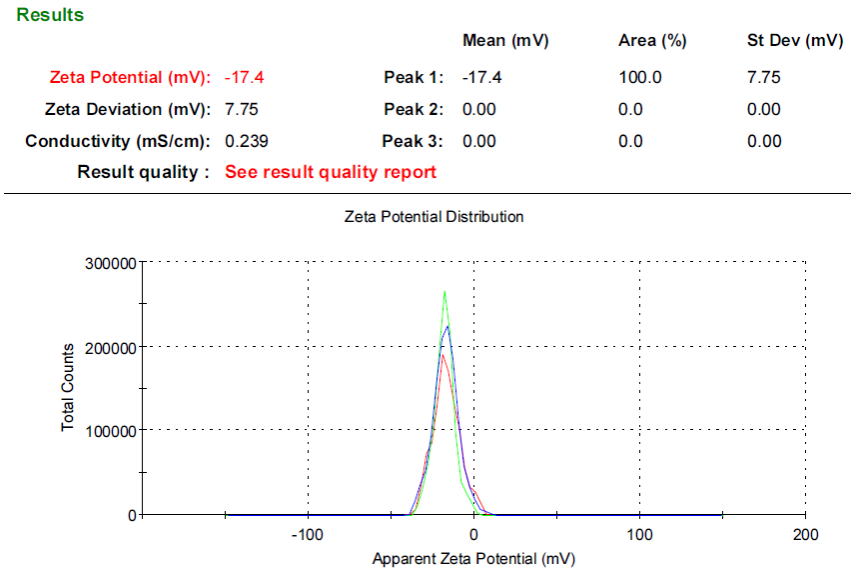

Figure S12: Zeta potential analysis of Au-Ag NPs using low concentration of plant extract.

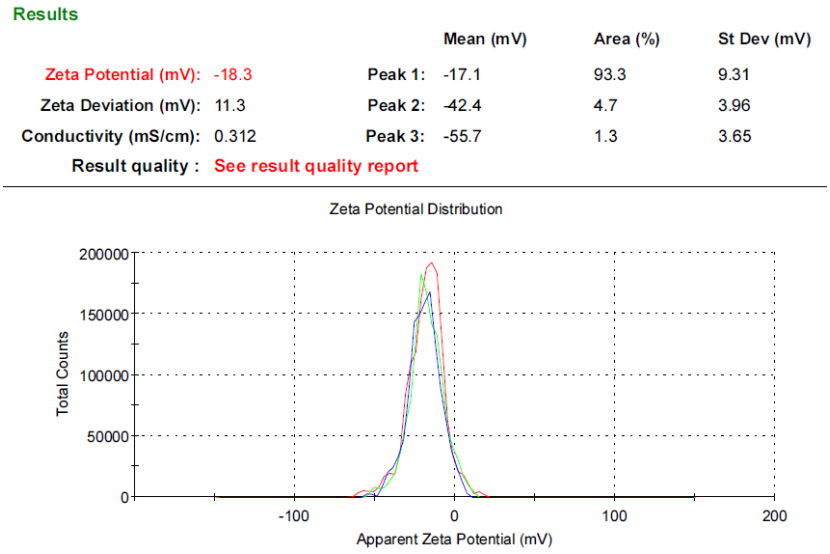

Figure S13: Zeta potential analysis of Au NPs using high concentration of plant extract.

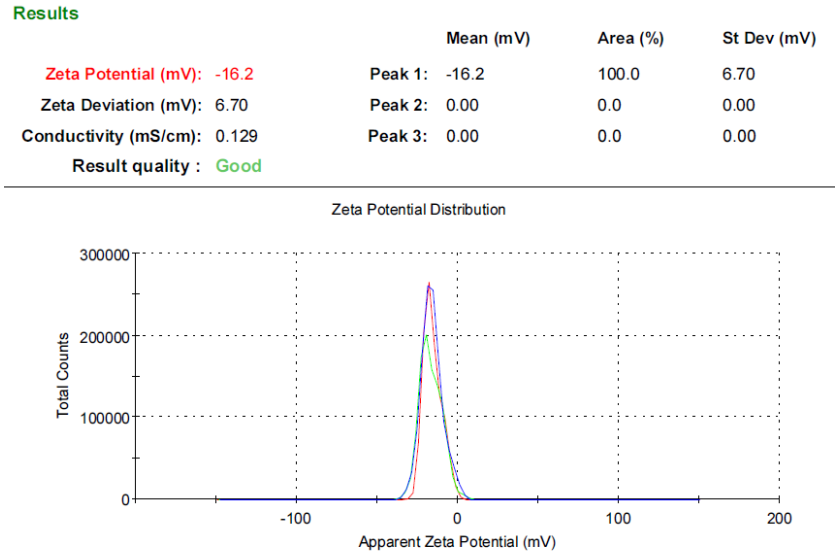

Figure S14: Zeta potential analysis of Ag NPs using high concentration of plant extract.

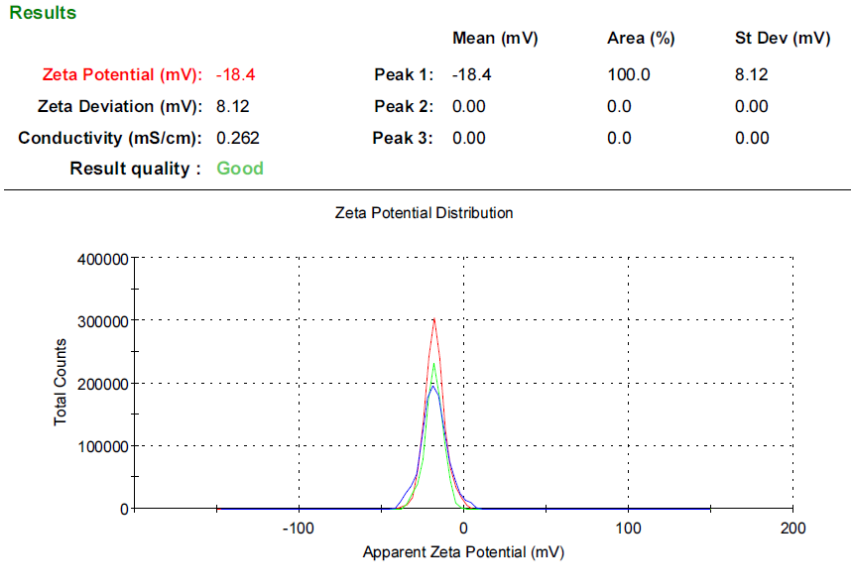

Figure S15: Zeta potential analysis of Au-Ag NPs using high concentration of plant extract.

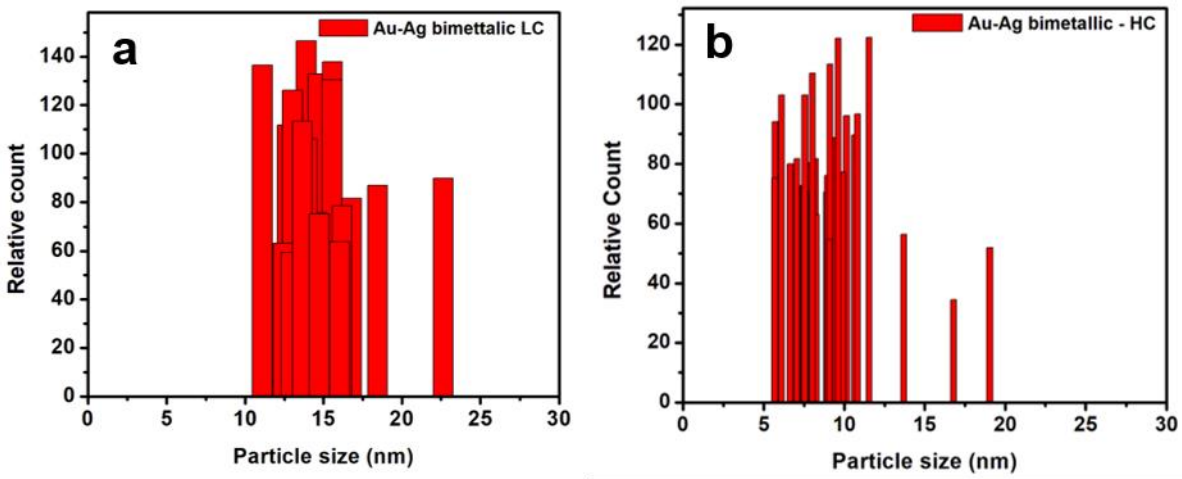

Figure S16: Particle size distribution graph of Au-Ag NPs using low concentration of plant extract and Au-Ag NPs using high concentration of plant extract.

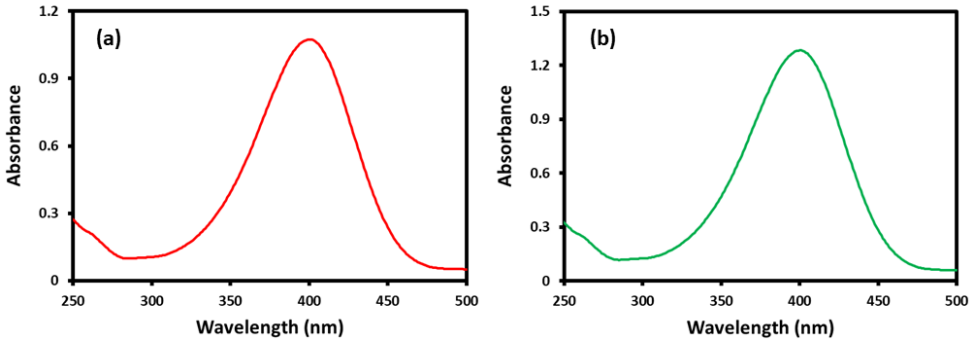

Figure S17: UV spectra of 4-NP of blank reaction performed (a) in the absence of catalyst, (b) using a very minute amount of plant extract.

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