

Supplementary Information
for

Environmentally benign bio-inspired synthesis of Au nanoparticles, their self-assembly and agglomeration

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Revised Manuscript Submitted to

RSC Advances

Article History

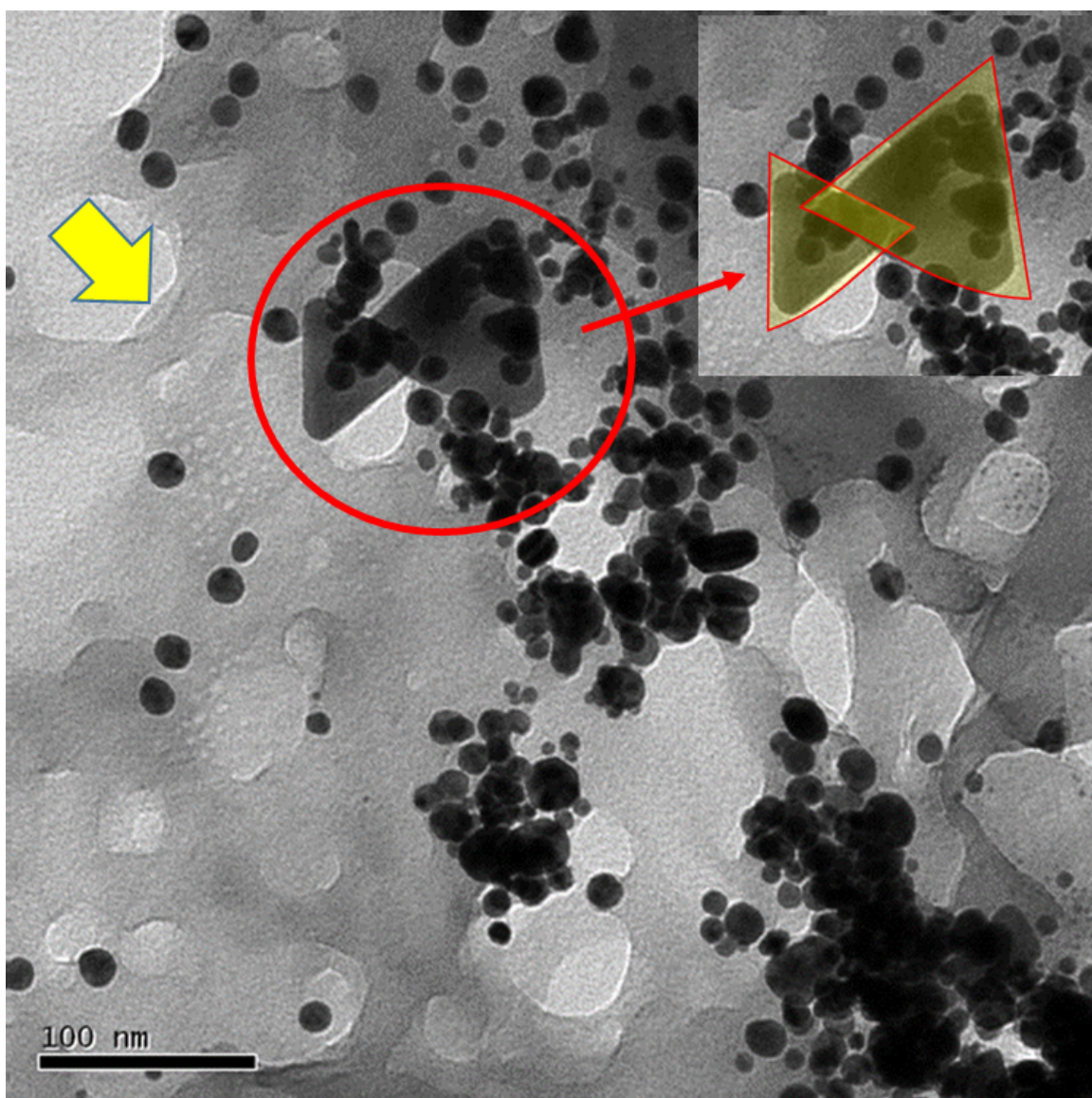
First submission: March 15, 2015

Revised Manuscript Submitted: April 18, 2015

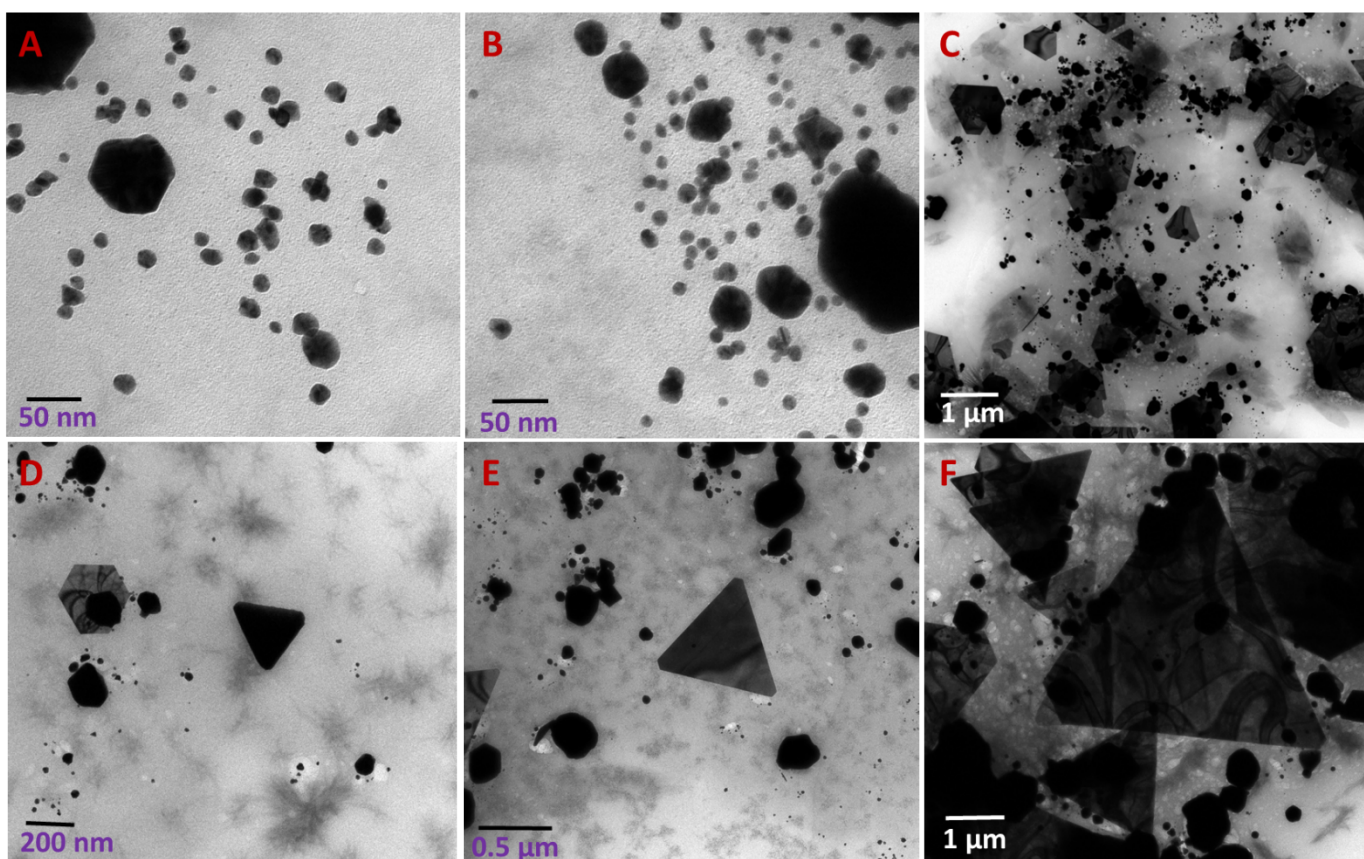
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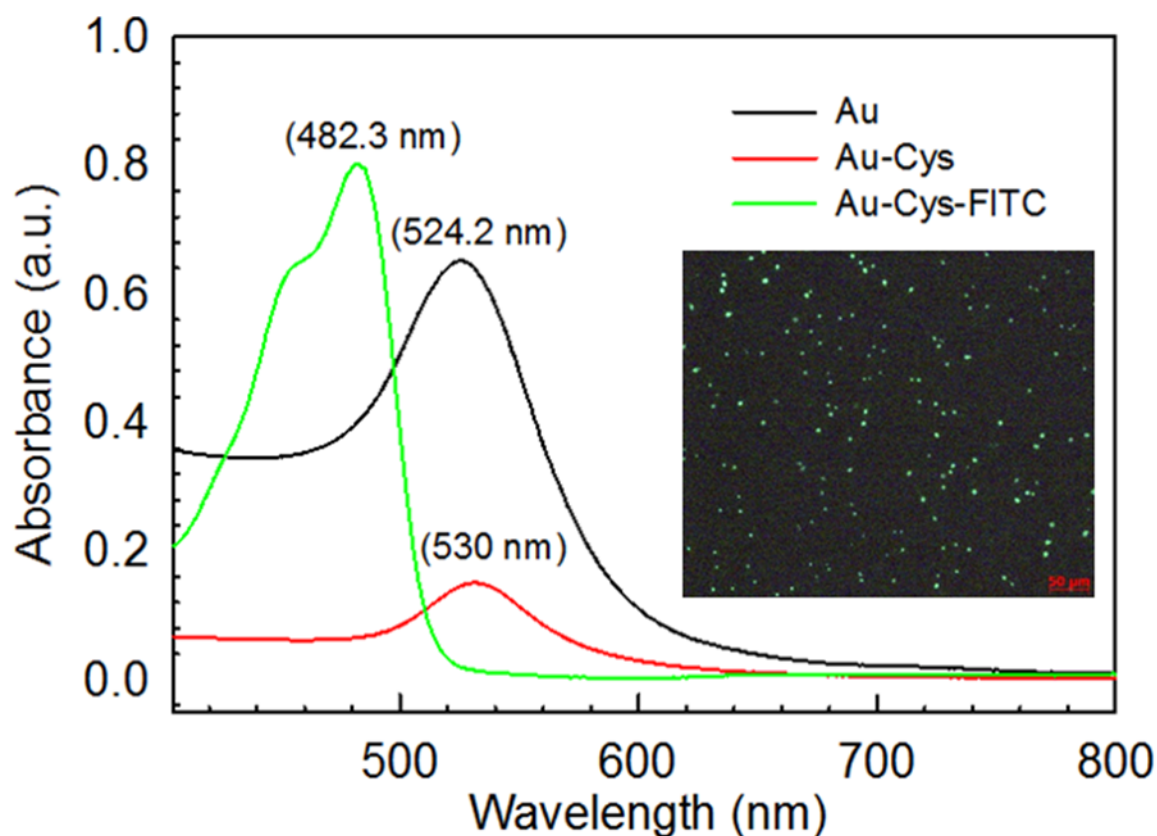
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Supplementary Figure 1. TEM micrograph of Au NPs synthesized by tomato plant leaf extract. Red circle with arrow zoomed inset showing triangular shape Au nanoplate formation after incubation at 30° C for 30 minutes. In addition, spherical shape particles also increased their size, perhaps due to thermal sensitivity of enzymatic protein solution, however exact mechanism is yet to be revealed. Solid yellow color arrow shows protein substances.



Supplementary Figure 2. TEM micrograph of Au nanoparticles. Structural evolution of Au nanoparticles synthesized by tomato plant leaves after thermal incubation at different temperature for 30 minutes (A) 35° C (B) 40° C (C) 45° C (D) 50° C (E) 75° C and (F) 90° C.



Supplementary Figure 3. Functionalization of Au nanoparticles with L-cysteine amino acid and further confirmation with fluorescent tag (fluorescent iso-thio-cynate: FITC): UV-Vis absorbance spectra of Au nanoparticles at 524.2 nm shifts to 530 nm as a result of cysteine amino acids binding, which providing free amino group to bind with fluorescent molecule, FITC shift the wavelength absorption to 482.3 nm. Inset shows fluorescence microscopy image of functionalized gold nanoparticles.