

SUPPORTING INFORMATION

Water Soluble Blue Emitting AuAg Alloy Nanoparticles and Fluorescent Solid Platforms for Removal of Dyes from Water

Srikrishna Pramanik, Arindam Saha and Parukuttyamma Sujatha Devi*

*Email:psujathadevi@cgcri.res.in

Supporting Information-Figures

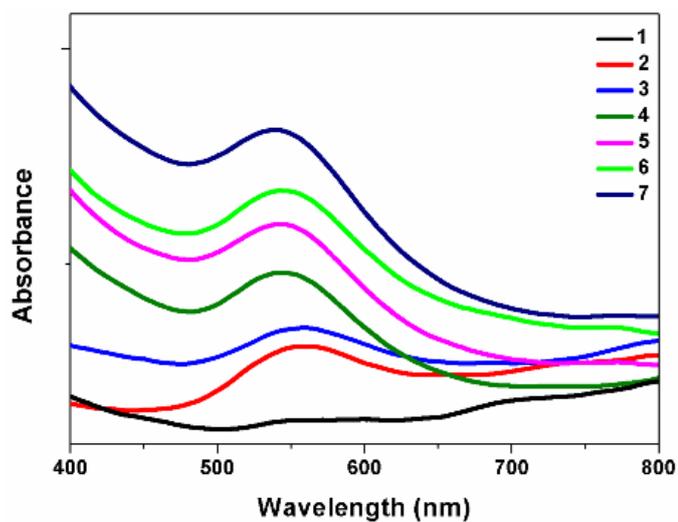


Figure S1:Uv-Vis spectra of the reaction of ESM with HAuCl₄ solution monitored as a function of time. Curves (1) is for solution after 1 hr of reaction and 2-7 represents spectral changes for day1 , day2, day3, day4, day5, day7.

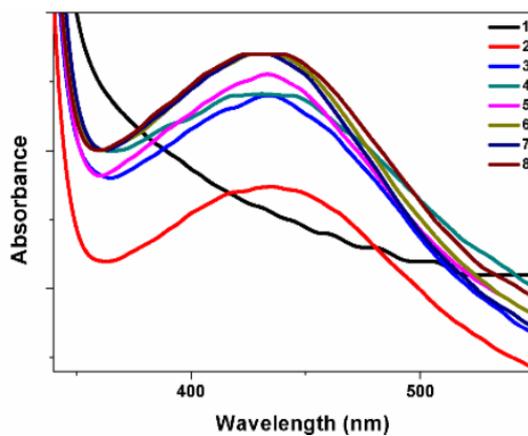


Figure S2:Uv-Vis spectra of the reaction of ESM with AgNO₃ solution monitored as a function of time. Curves (1) is for starting solution and 2-8 represents spectral changes for 1-7 days.

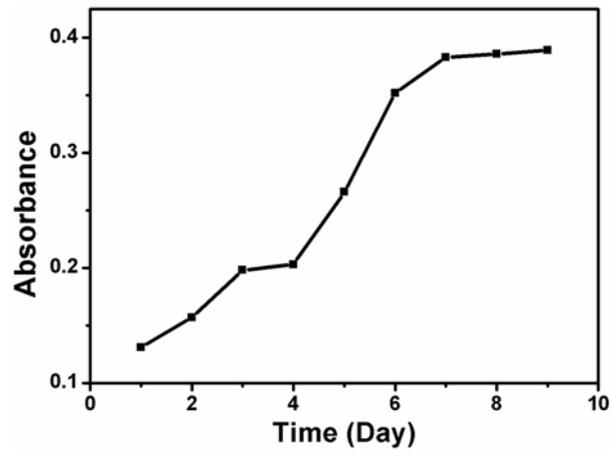


Figure S3: The variation of absorbance representing the formation of the AuAg alloy nanoclusters with reaction time.

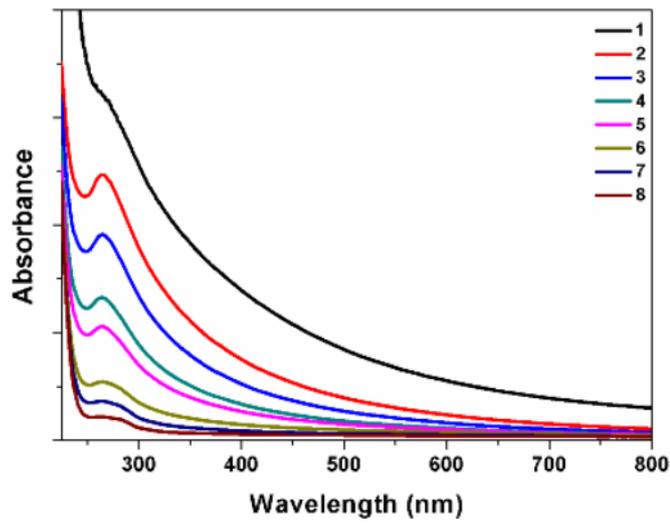


Figure S4: Uv-Vis spectra of the reaction of ESM with $\text{AgNO}_3 + \text{HAuCl}_4$ solution as a function of time. Curves (1) is for starting solution and 2-8 represents spectral changes for 1-7 days.

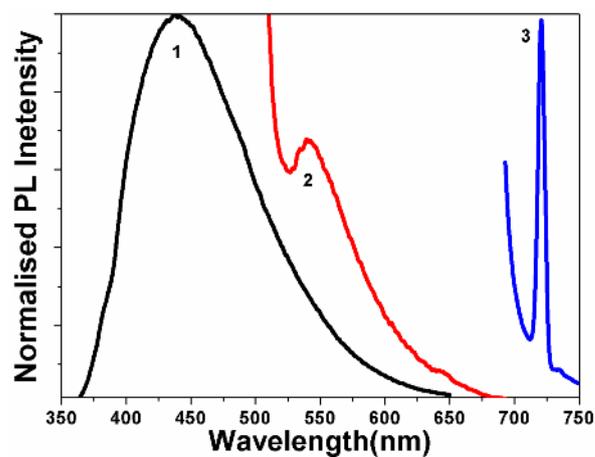


Figure S5: Fluorescence spectra of Au-ESM nanocluster solution excited at (1) 340nm (2) 500 nm and (3) 680 nm, respectively.

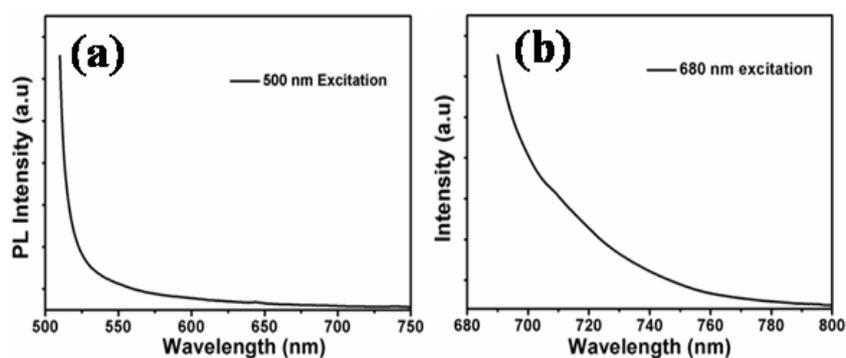


Figure S6: Fluorescence spectra of AuAg nanoclusters excited at 500 nm and 680 nm, respectively.

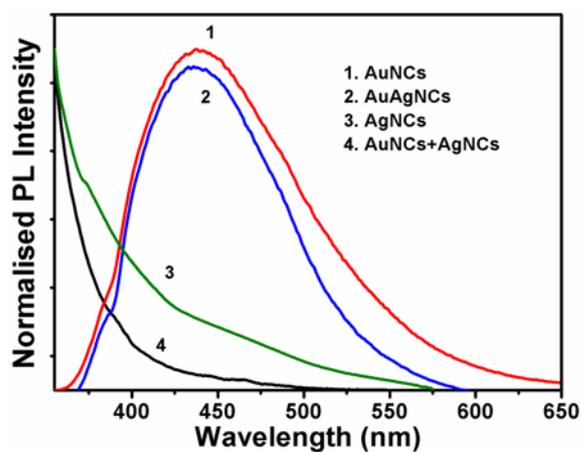


Figure S7: Fluorescence spectra of a 1:1 mechanical mixture of Au nanoclusters (AuNC) and Ag nanoclusters (AgNC) measured at room temperature.

excited at 340 nm.

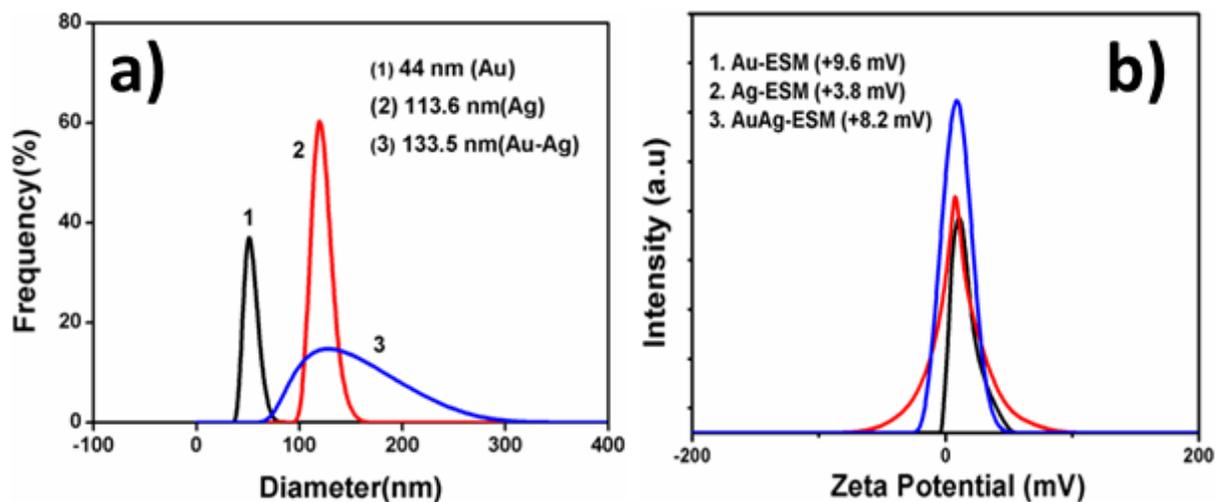


Figure S8: Hydrodynamic particle size distribution (a) and zeta potential (b) of the metal and alloy nanoclusters.

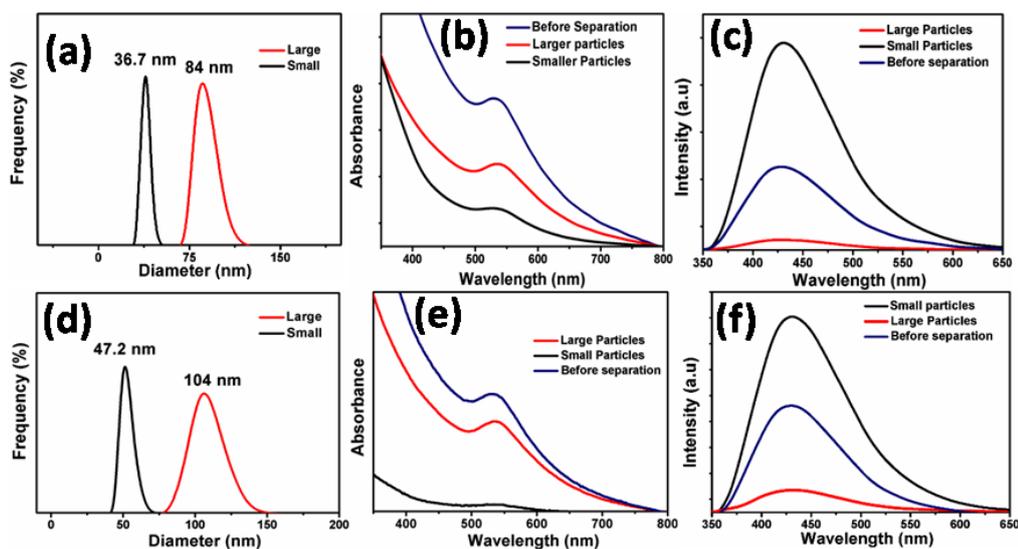


Figure S9: (a), (b), (c) and (d), (e), (f) are the size distribution, absorption and emission data of the separated particles after 3 and 7 days of the reaction.

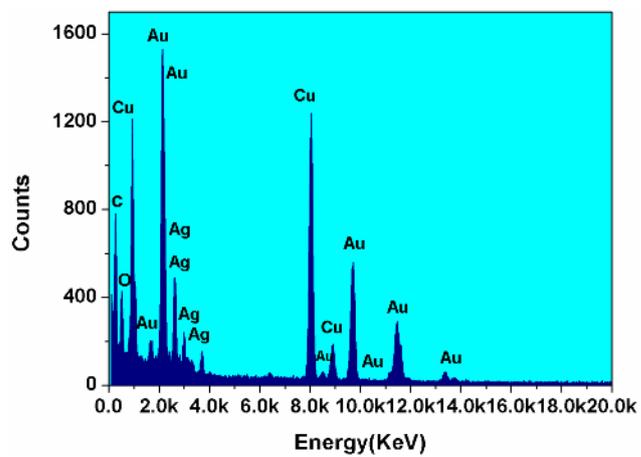


Figure S10: Energy dispersive x-ray analysis spectra of colloidal AuAg particles.

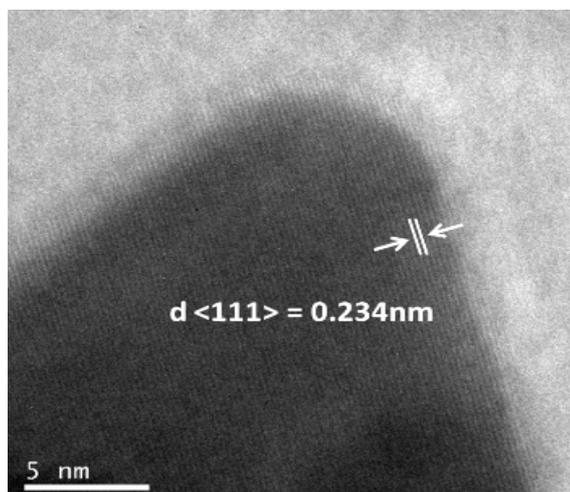


Figure S11: HRTEM image of a Au NP.



Figure S12: HRTEM image of Ag NCS.

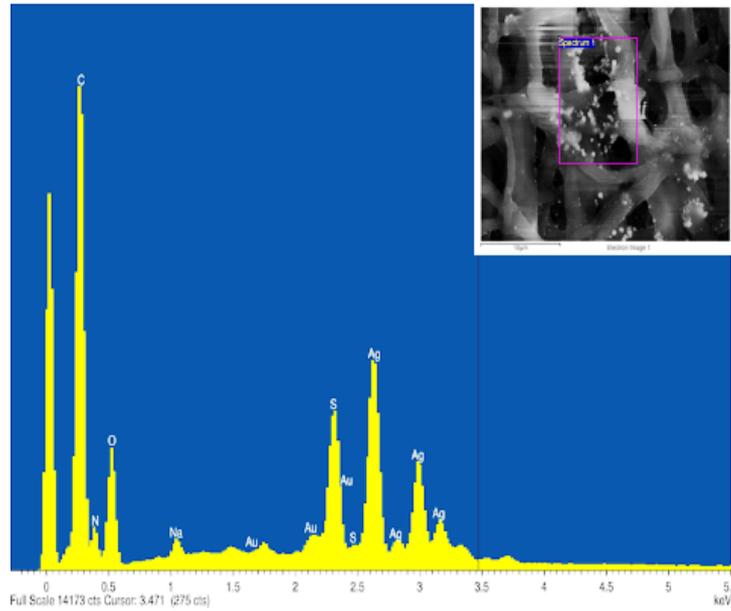


Figure S13: EDS done on the Au-Ag-ESM membrane.

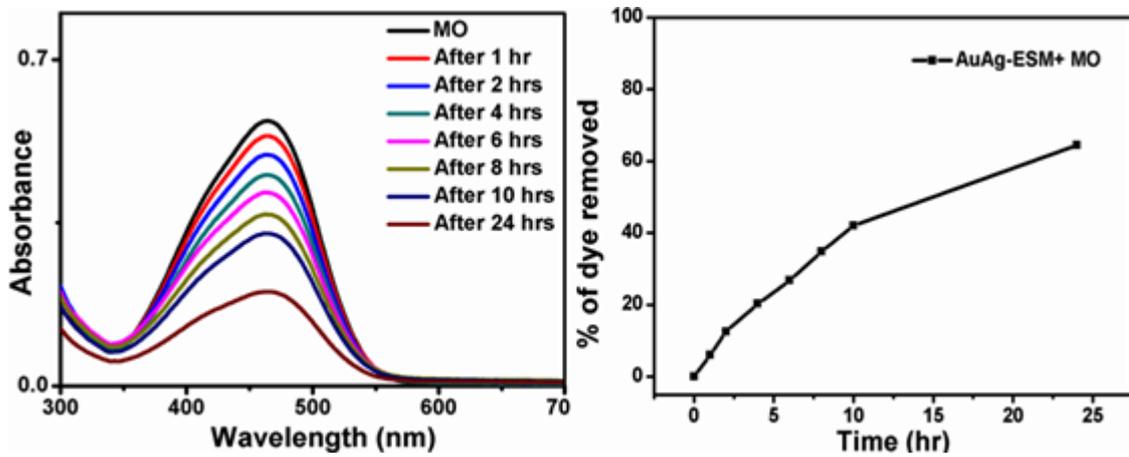


Figure S14: MO dye adsorption by AuAg-ESM in a buffer solution of pH 7.00

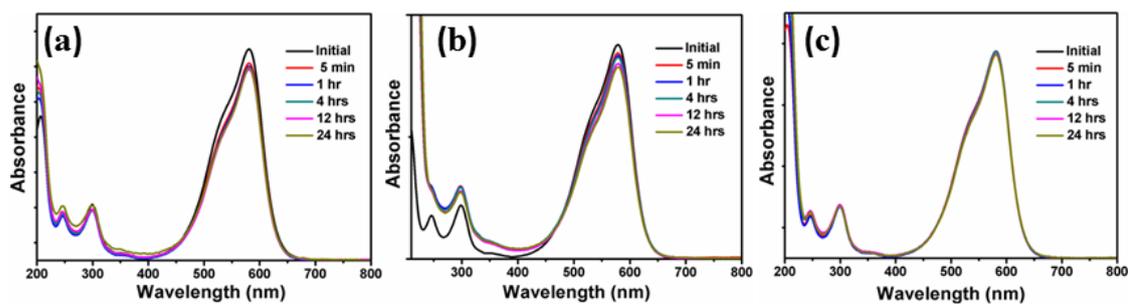


Figure S15: Absorbance spectra of Cationic Dye (Methyl Violet) removal experiment using (a) Au-ESM, (b) Ag-ESM and (c) AuAgESM

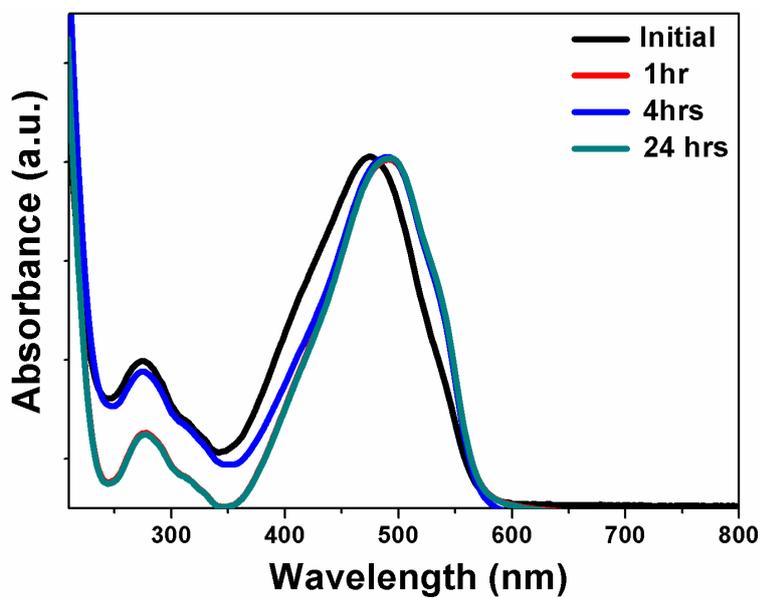


Figure S16: Interaction of MO dye with as-formed AuAg alloy nanoclusters in solution.

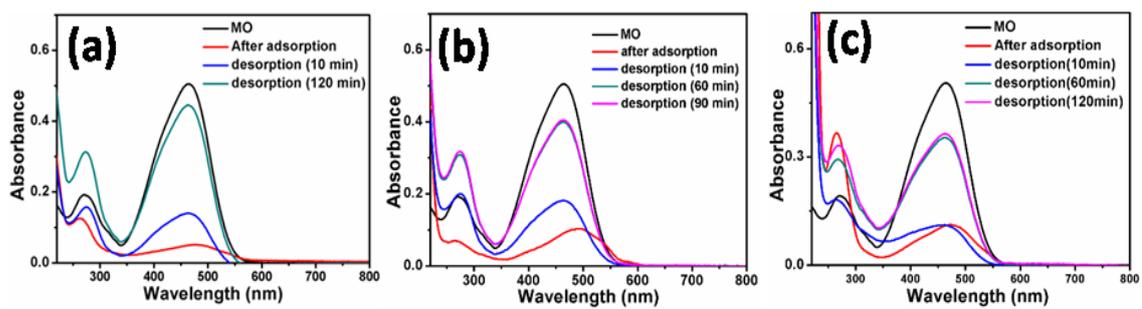


Figure S17: Dye desorption experiments with (a) AuESM, (b) AuAgESM and (c) AgESM in 0.005 M NaOH solution.