Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information for

Study chemical processes involved in silver staining of gold nanostructures by Raman scattering

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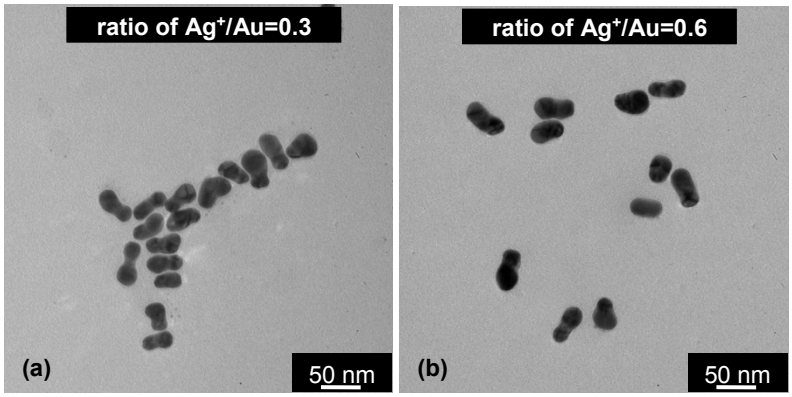

Fig. S1. *TEM images of the gold dimers after the deposition of silver at the Ag^+/Au molar ratios ($R_{Ag^+/Au}$) of 0.3 (left) and 0.6 (right).*

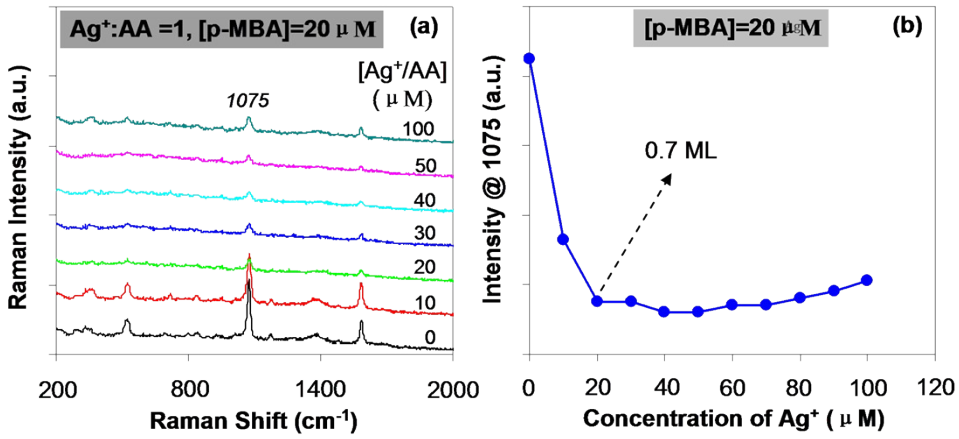

Fig. S2. *(a) Raman spectra of p-MBA recorded with the silver-coated gold dimers prepared in the range of Ag^+ concentrations of 0–100 μM. (b) Variations in intensity of the peak at 1075 cm^{-1} with the Ag^+ concentration. The concentration of gold atoms in the dimer solutions was 127.0 mg/L as measured by ICP-AES. The $R_{[AA]/[Ag+]}$ ratio was kept in stoichiometry (1:1) in all the reactions. The decrease in intensity of the peak at 1075 cm^{-1} at the Ag^+ concentration of 20 μM, corresponding to a silver shell thinner than one monolayer (equivalent to ~0.7 monolayer (ML) by assuming the lattice parameter for both bulk Au and Ag as 4.18 Å (see Ref. 48 in the text).*

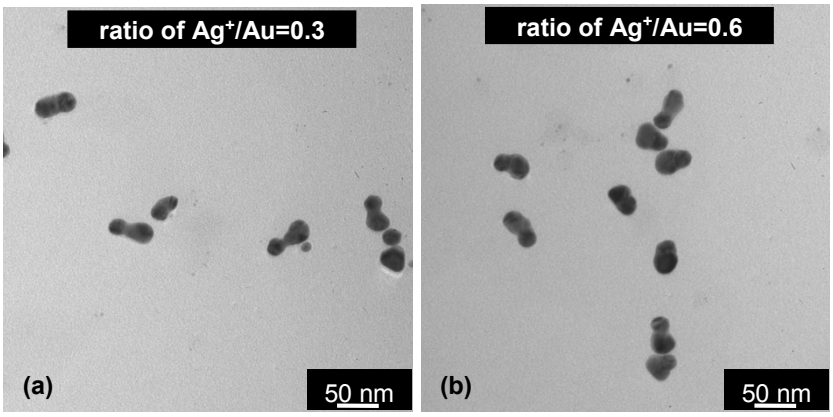

Fig. S3. *TEM images of the bimetallic nanostructure with p-MBA sandwiched between the two metals with Ag^+/Au molar ratios ($R_{Ag+/Au}$) of 0.3 (left) and 0.6 (right) related to Figure 6 in the text.*