Electronic supplementary information

Ag-Cu_2O composite microstructures with tunable Ag contents: synthesis and surface-enhanced (resonance) Raman scattering (SE(R)RS) properties

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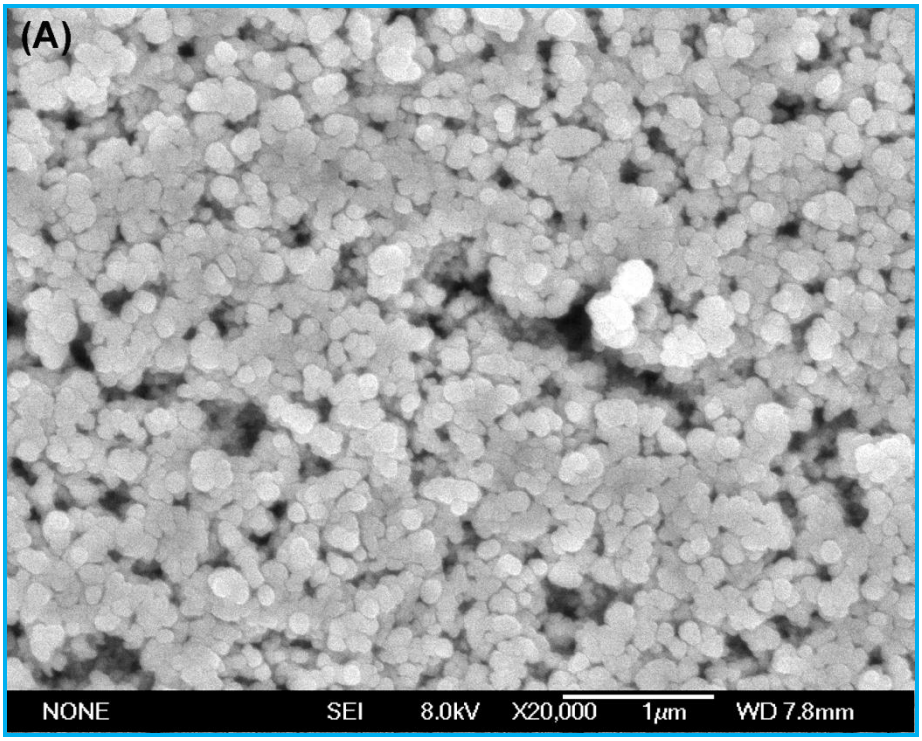
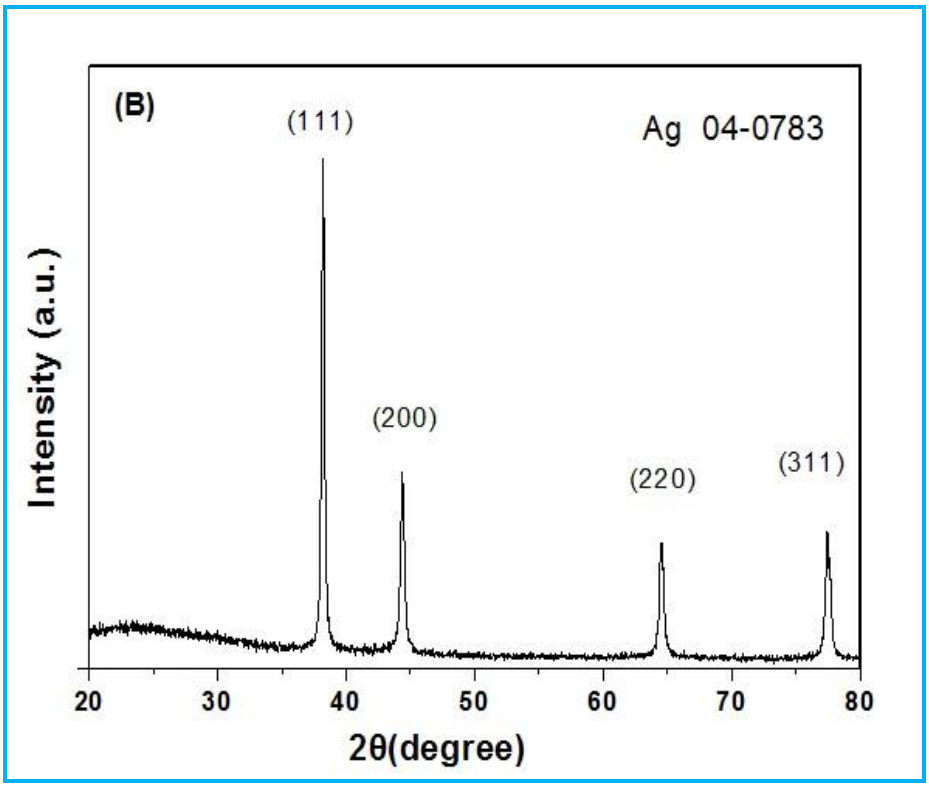
Synthesis of Ag nanoparticles (NPs)

The Ag NPs with an average size of 100 nm were prepared by sodium citrate reducing $AgNO_3$ aqueous solution. Typically, 0.12g $AgNO_3$ was dispersed in 76 mL of deionized water, followed by addition of 4 ml of sodium mixture solution (0.74 M sodium citrate and 1.2 M sodium carbonate mixed solution) slowly. After the mixture was stirred for 10 min, 6 g PVP (K-30; Mw=30 000) was mixed with vigorous stirring in a round-bottomed glass flask. After the complete dissolution of the PVP powder, the solution was kept in a water bath at a temperature of 80 ^{o}C for 20 min, yielding the gray Ag NPs.

Fig. S1 (A) FESEM and (B) XRD of the bare Ag NPs prepared by reduction of silver nitrate with trisodium citrate





Scheme 2 A Schematic image of charge transfer between Cu_2O and Ag.