ESI (Electronic Supplementary Information)

Silver nanoparticle anchored carbon dots for improved sensing, catalytic and intriguing antimicrobial activity

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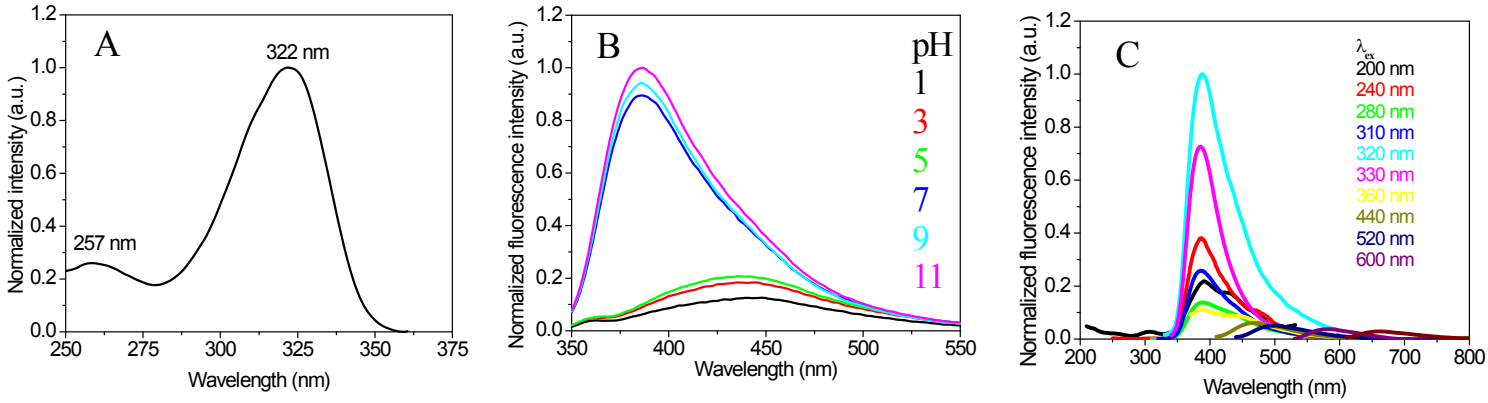

Figure S1: (A) Excitation spectra of NSCD when emission maximum is 386 nm. (B) Fluorescence spectral profile of NSCD at different pH. (C) Fluorescence spectral profile of NSCD at different wavelength.

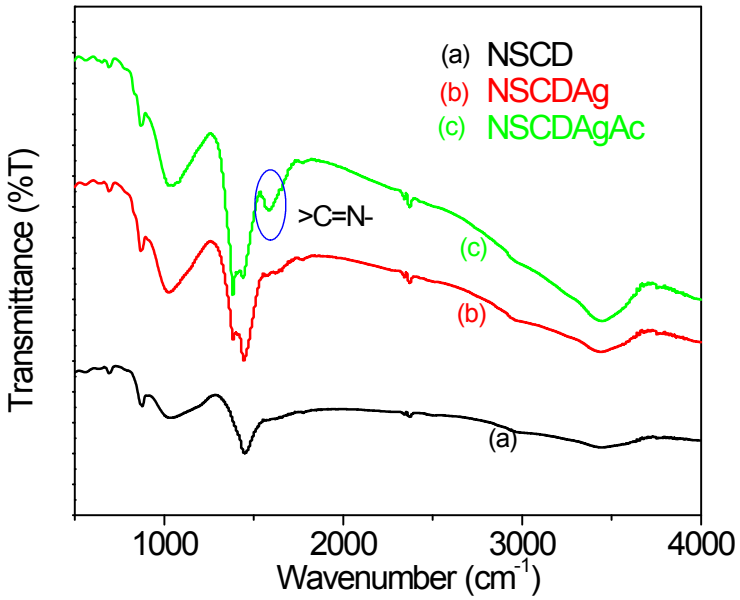

Figure S2: FTIR spectra of (a) NSCD (b) NSCDAg and (c) NSCDAgAc particles.

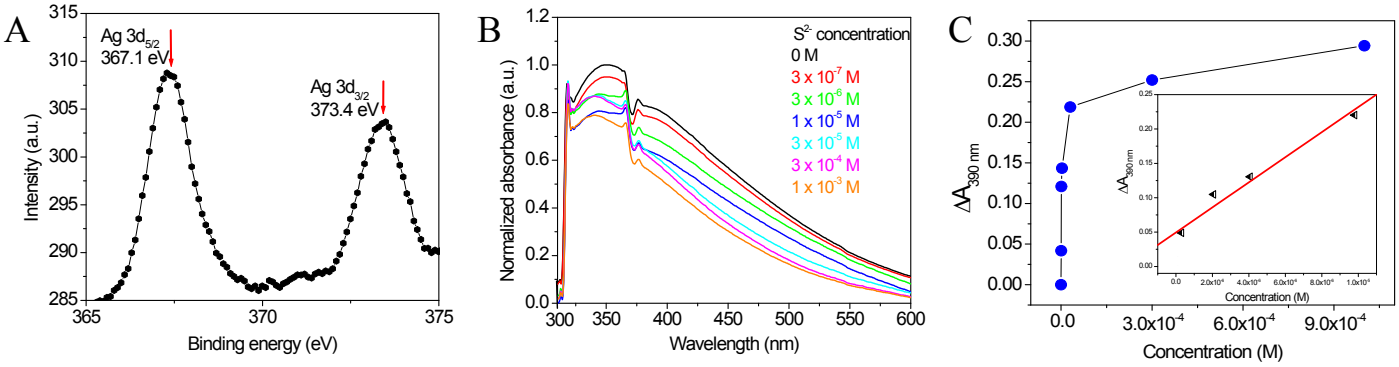

Figure S3: XPS of Ag in NSCDAgAcS solution under fridge drying condition. (B) Absorption spectra of NSCDAg solution after addition of sulfide ion. (C) Relative absorbance of NSCDAg solution as a function of sulfide ion concentration (Inset LOD).

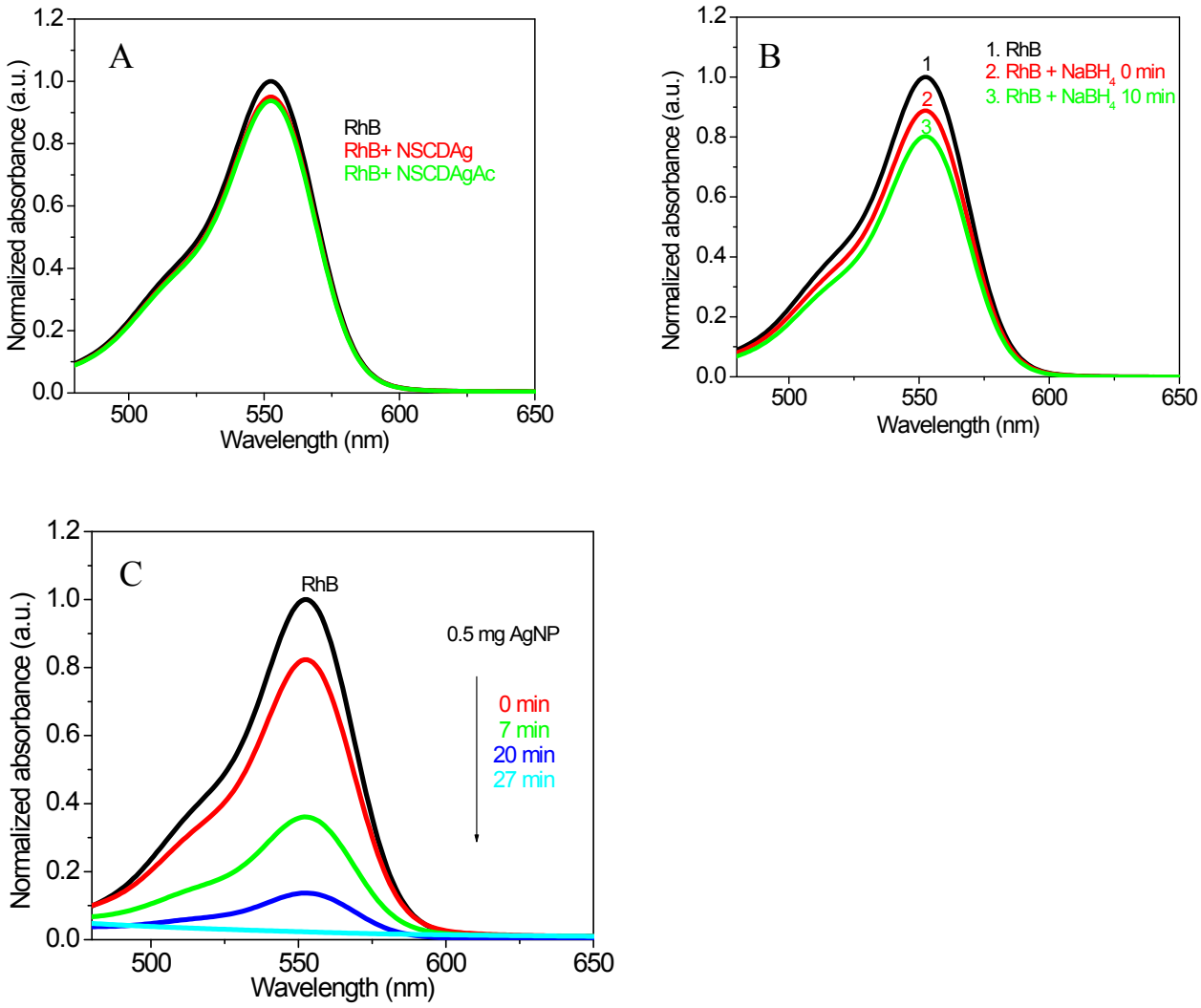

Figure S4. UV-vis spectra of RhB in (A) with 10^{-2} M borohydride but in absence of catalyst and (B) with 0.5 mg catalyst (NSCDAg and NSCDAgAc) but in absorbance of borohydride and (C) 0.5 mg AgNPs prepared without NSCD.

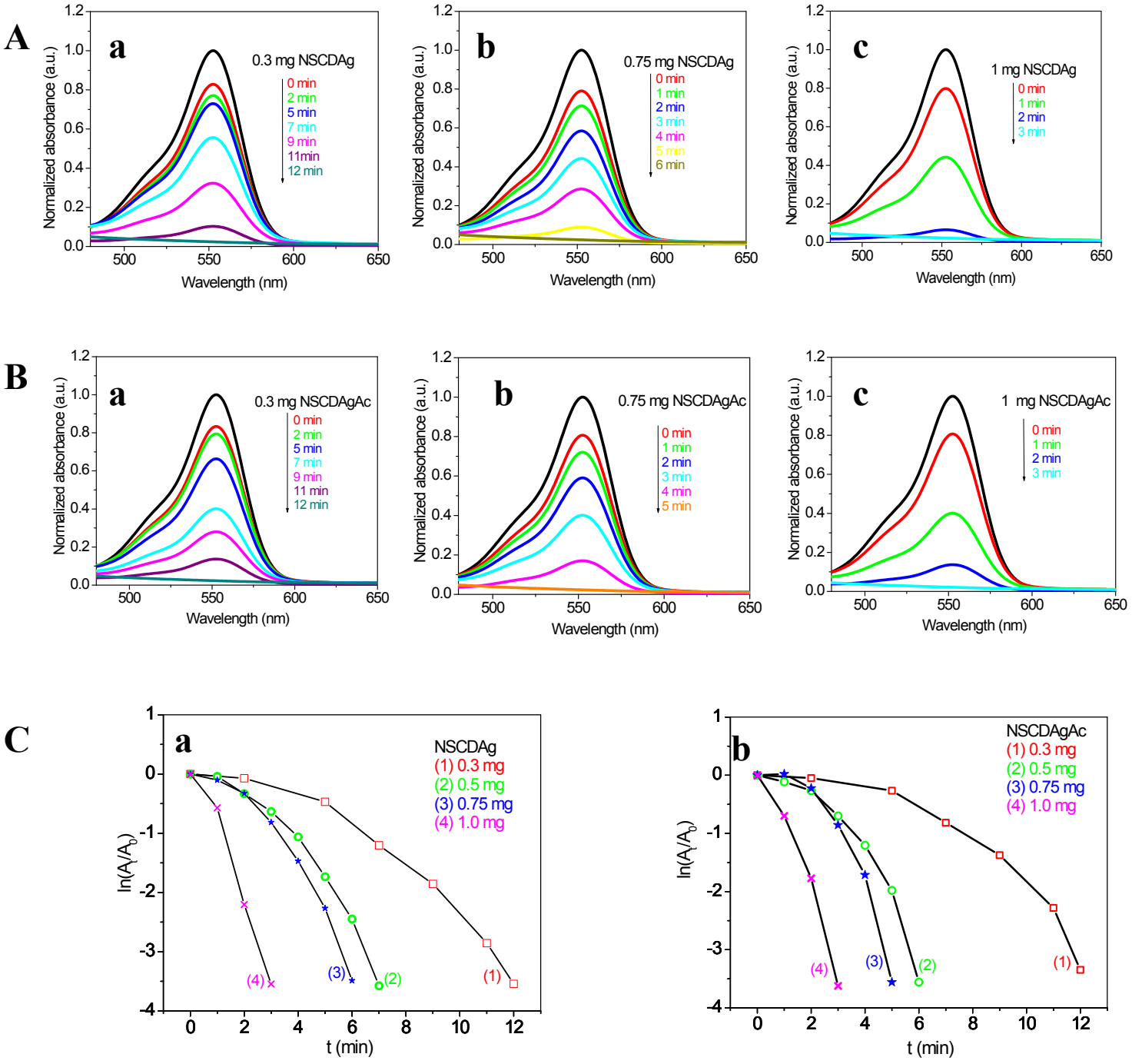

Figure S5: Variation of (A) NSCDAg and (B) NSCDAgAc amount at 10^{-2} M borohydride. (C) $\ln(A_t/A_0)$ vs. time plot for different catalyst concentrations.

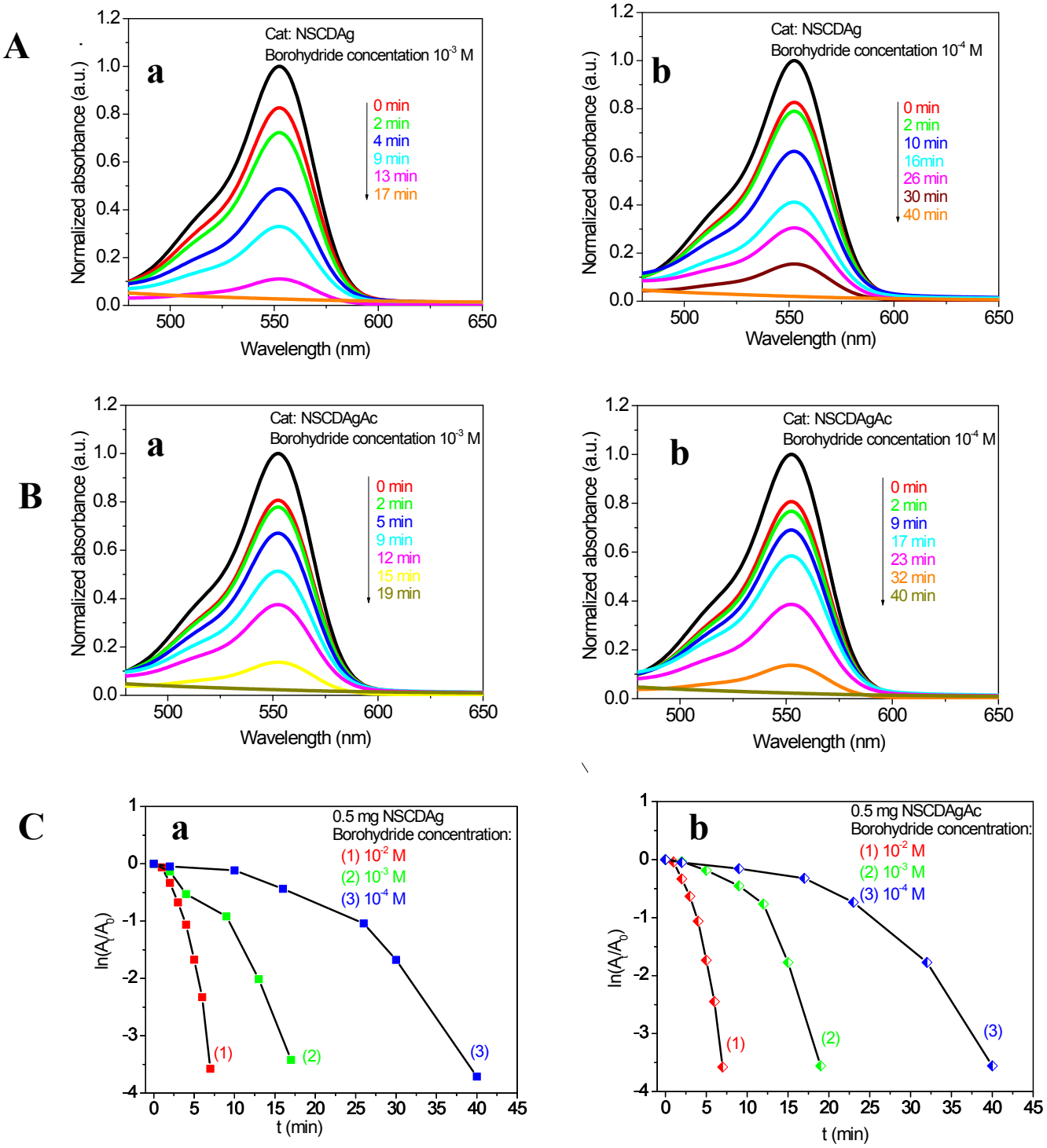

Figure S6: Variation of borohydride concentration for (A) 0.5 mg NSCDAg and (B) 0.5 mg NSCDAgAc. (C) $\ln(A_t/A_0)$ vs. time plot for borohydride concentrations for two AgNPs (a) NSCDAg and (b) NSCDAgAc.

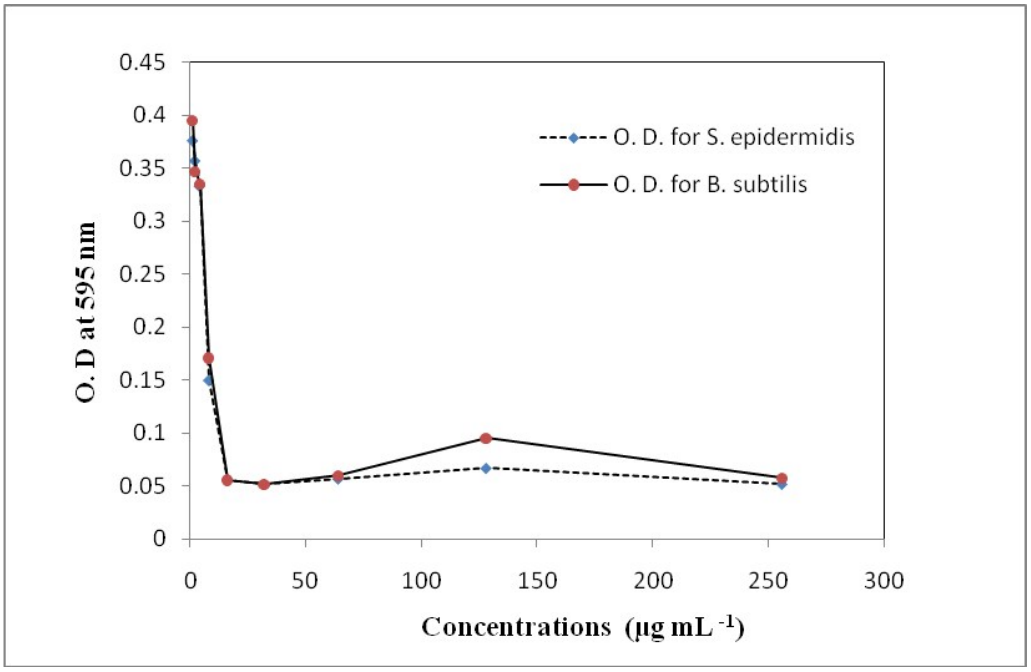

Figure S7: Growth pattern of two tested bacterial strains in presence of different concentrations of as synthesized AgNPs. Culture medium was supplemented with various concentrations (1–250 µg mL^{-1}) of nanoparticles. Bacterial growth was measured at 595 nm after 24 h at 37 ± 2^{0}C. The bacterial growth optical density (OD) was calculated by deduction of blank from test.