

Silver incorporated mussel-inspired polydopamine coatings on mesoporous silica as an efficient nanocatalyst and antimicrobial agent

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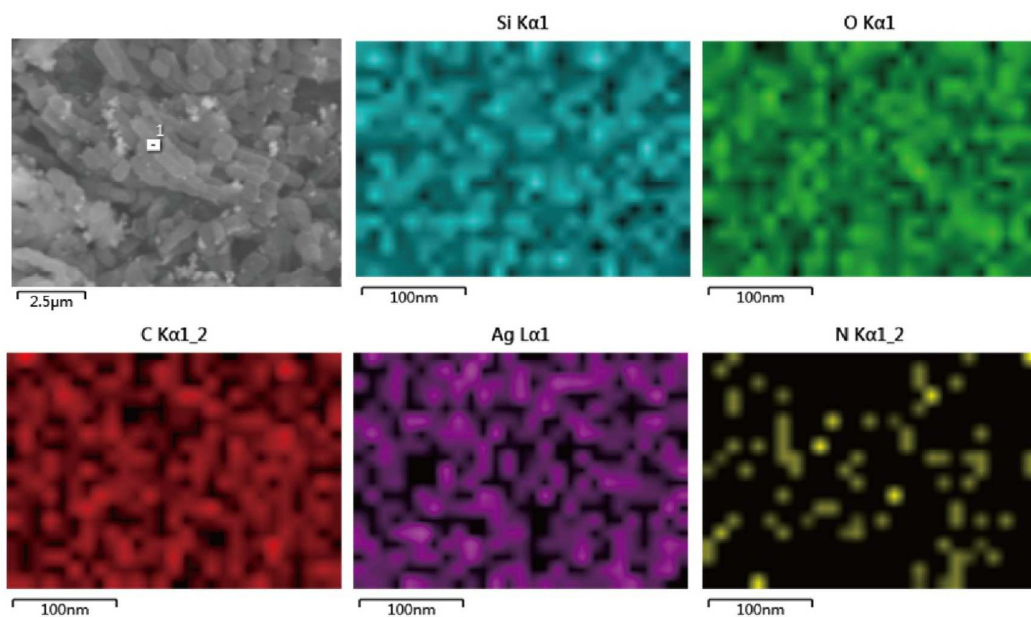


Figure S1. EDS mapping results of silicon (Si), oxygen (O), carbon (C), silver (Ag), and nitrogen (N) in SBA-15/PDA/Ag nanocomposites.

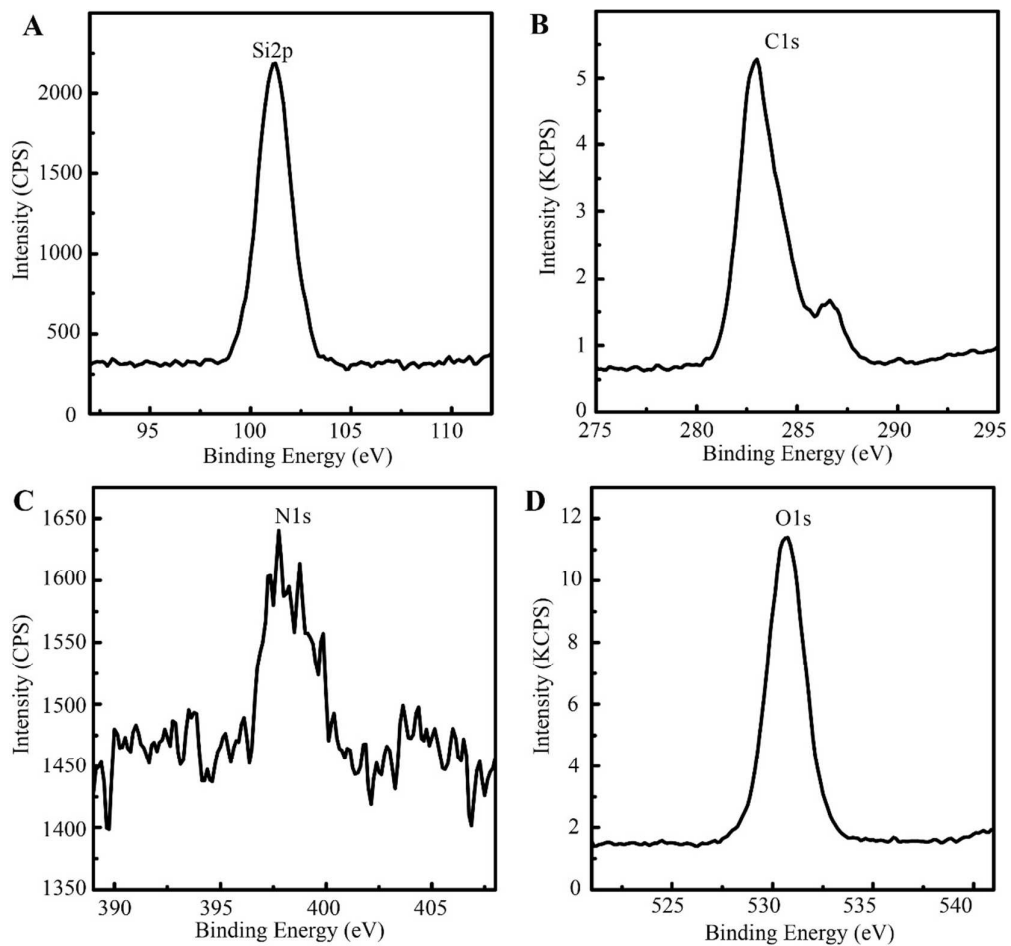


Figure S2. (A) Si 2p, (B) C 1s, (C) N 1s and (D) O 1s high resolution XPS spectra of SBA-15/PDA/Ag nanocomposites.

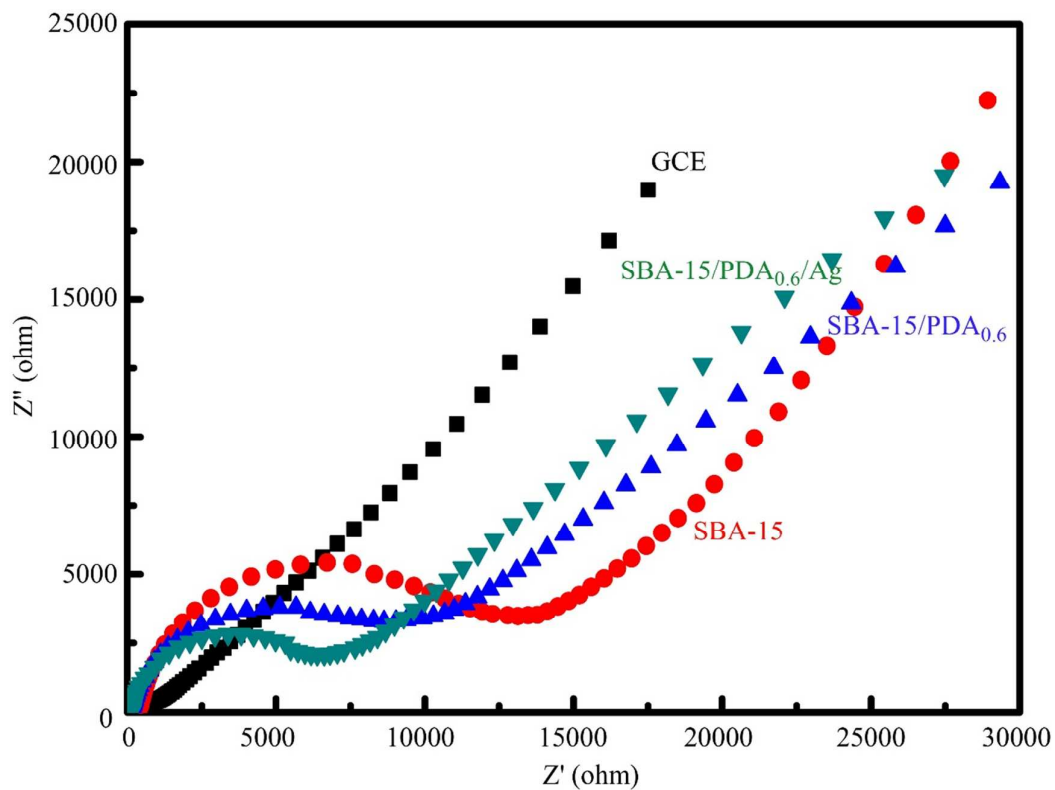


Figure S3. EIS of bare GCE, SBA-15 modified GCE, SBA-15/PDA_{0.6} modified GCE and SBA-15/PDA_{0.6}/Ag modified GCE in 10 mM KCl electrolyte solution containing 1 mM Fe(CN)₆^{3-/4-}.

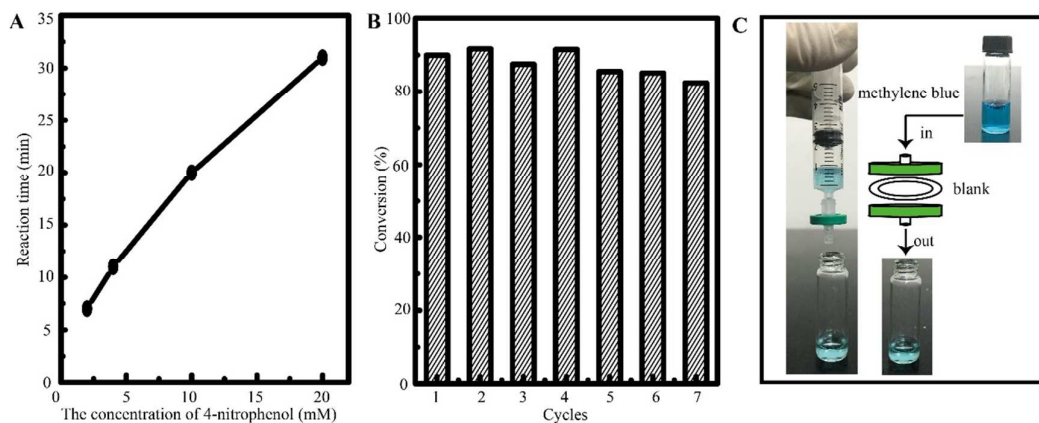


Figure S4. (A) The reaction time *versus* the concentration of 4-nitrophenol in the presence of 1 M NaBH₄ and 0.01 mg/mL SBA-15/PDA_{0.6}/Ag; (B) Reusability of the SBA-15/PDA_{0.6}/Ag under the experimental conditions of 1 M NaBH₄, 2 mM 4-nitrophenol, and 0.01 mg/mL SBA-15/PDA_{0.6}/Ag; (C) Photograph and illustration of the continuous flow catalysis of methylene blue using untreated commercial filter membrane in the presence of NaBH₄.