

Supplementary information

A novel approach for the synthesis of ultrathin silica-coated iron oxide nanocubes decorated with silver nanodots ($\text{Fe}_3\text{O}_4/\text{SiO}_2/\text{Ag}$) and their superior catalytic reduction of 4-nitroaniline

Mohamed Abbas^{1,2}, Sri Ramulu Torati¹, CheolGi Kim¹

¹Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology (DGIST),
Daegu, South Korea

²Ceramics Department, National Research Centre, El-Bohous Street, 12622 Cairo, Egypt

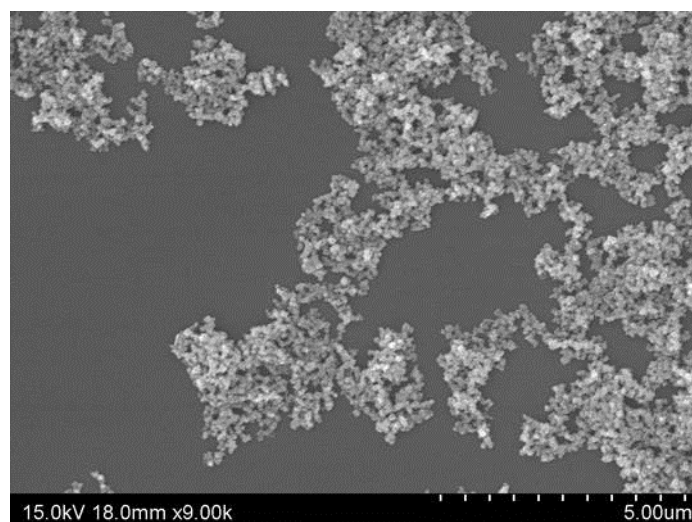


Fig. S1 SEM image for Fe_3O_4 nanocubes

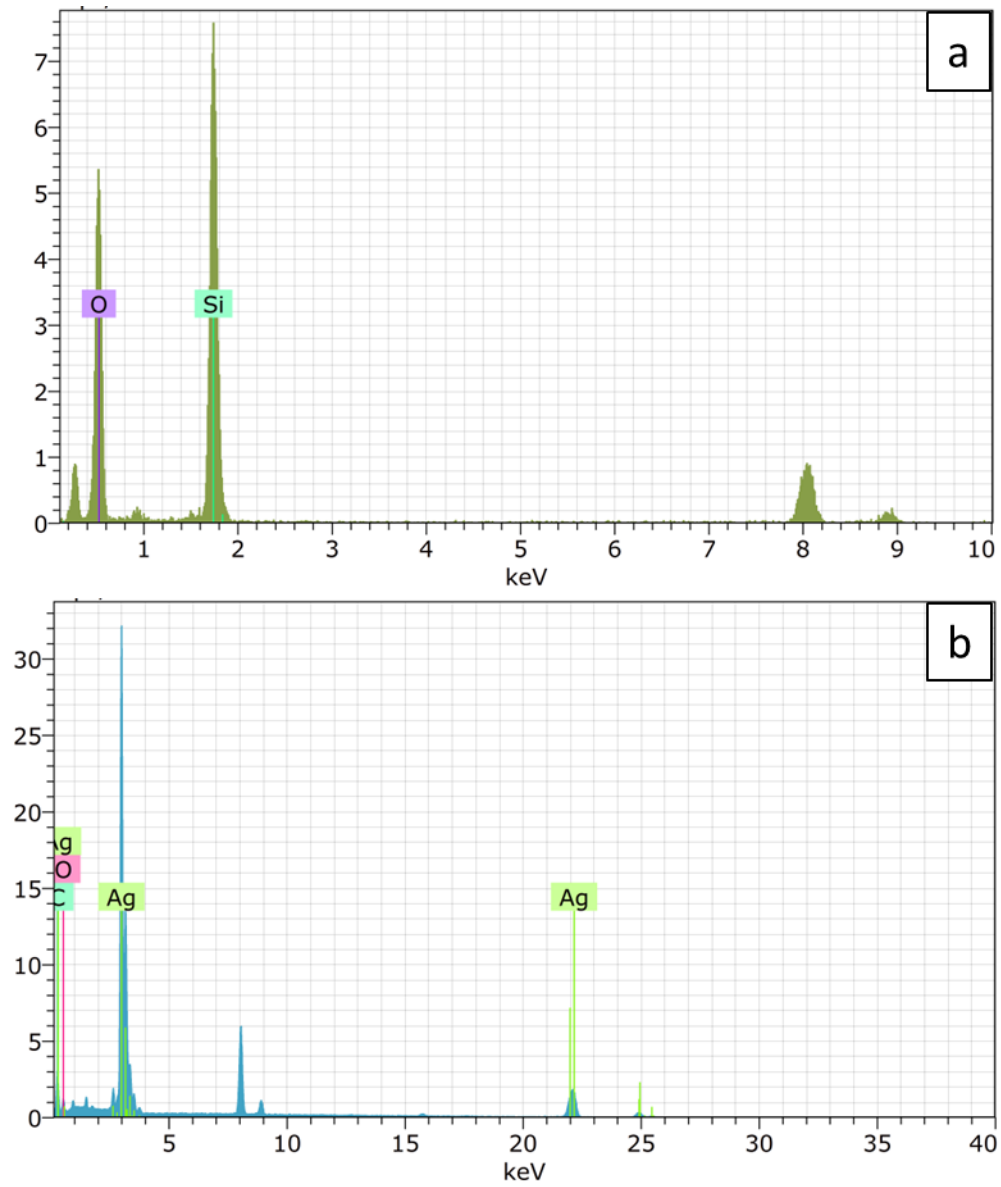


Fig. S2 EDS analysis data for (a) SiO₂ NPs and (b) Ag NPs.

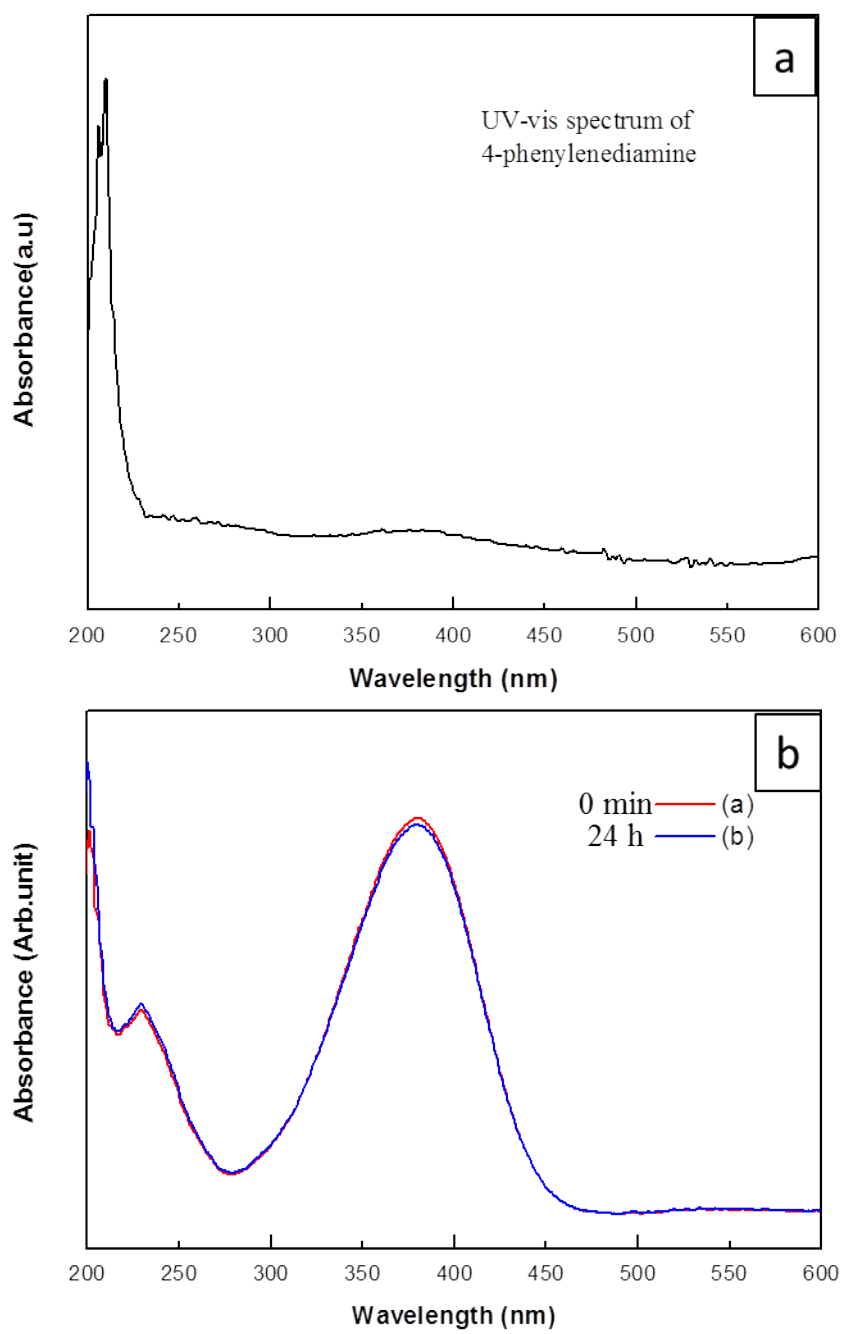


Fig. S3 UV-vis spectrum of (a) 4-phenylenediamine and (b) the reduction of 4 nitroaniline with only NaBH_4 for 24 h reaction time.

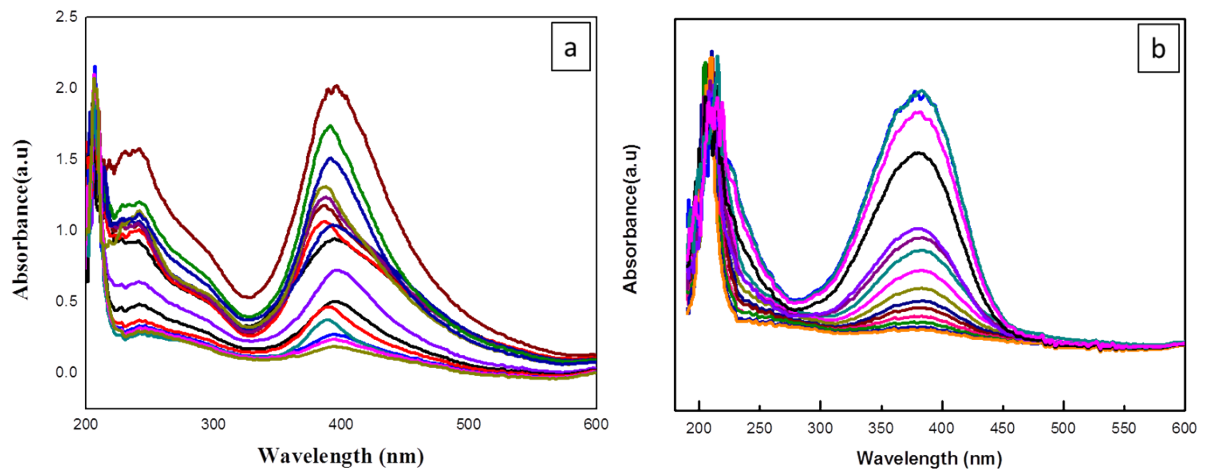


Fig. S4 UV-visible spectra for the reduction reaction of a 4-nitroaniline compound by (a) SiO₂/Ag NPs and (b) Ag NPs.