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**Electronic Supplementary Information**

# Effective photoreduction of a nitroaromatic environmental endocrine disruptor by AgNPs functionalized on nanocrystalline$TiO_2$.

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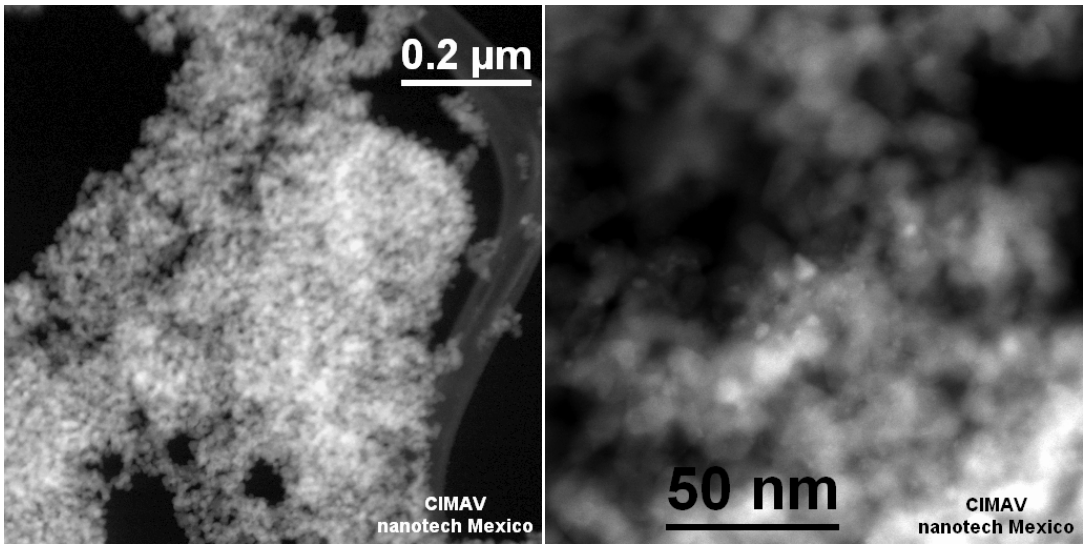


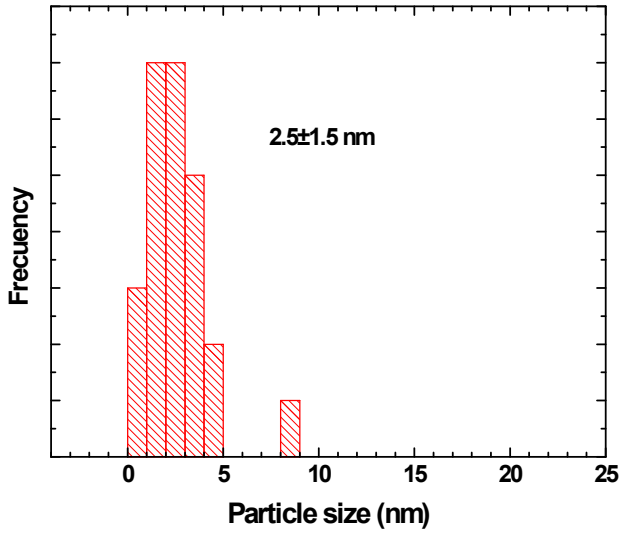


**Figure S1.** TEM observations in High-Angle Annular Dark-Field (HAADF) for the sol-gel Ag/TSG composite. Also, a histogram of the average particle size is included.

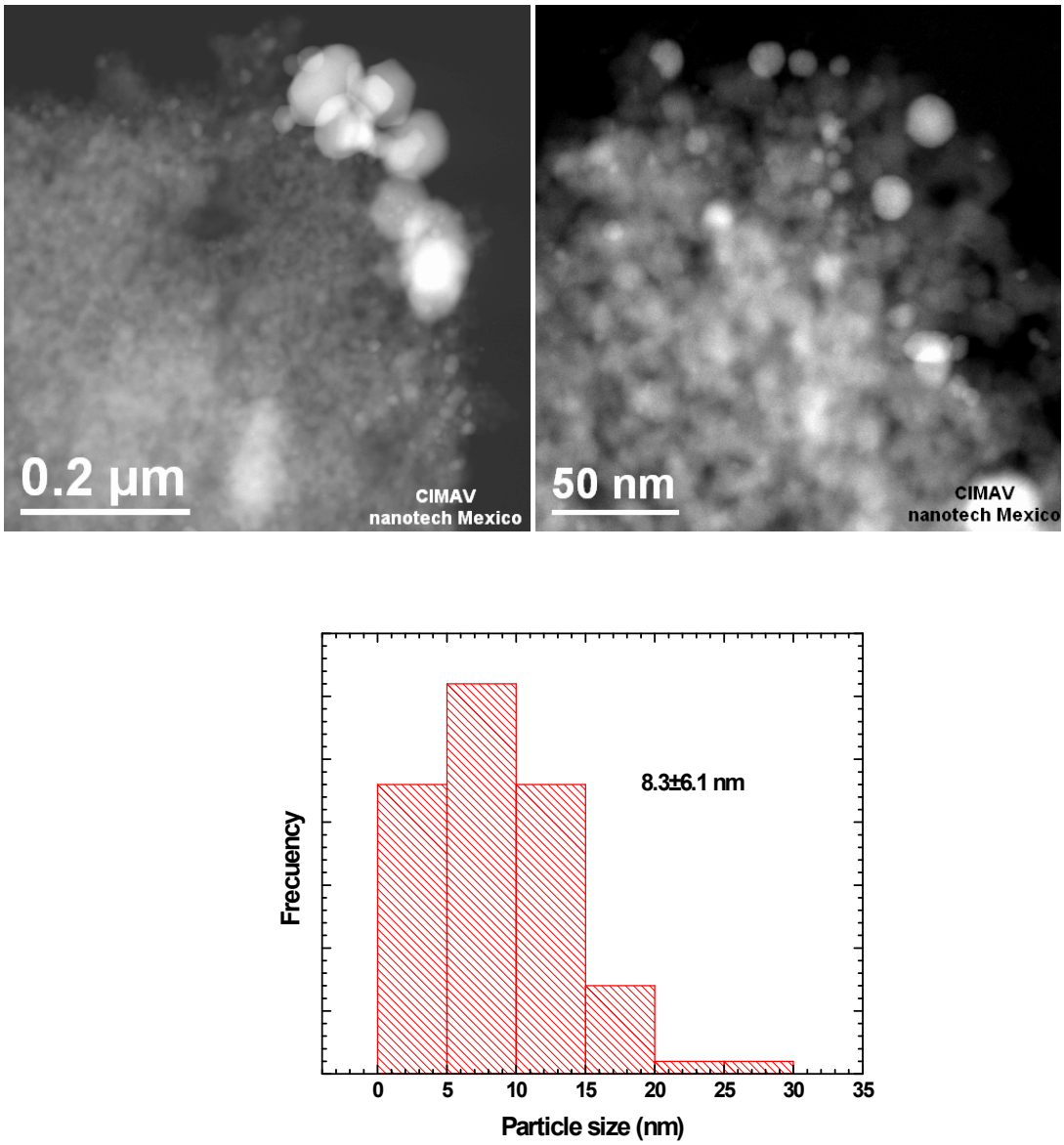


**Figure S2.** TEM observations in High-Angle Annular Dark-Field (HAADF) for the commercial Ag/TP25composite. Also, a histogram of the average particle size is included and HRTEM images showing silver on $TiO_2$ lattices.

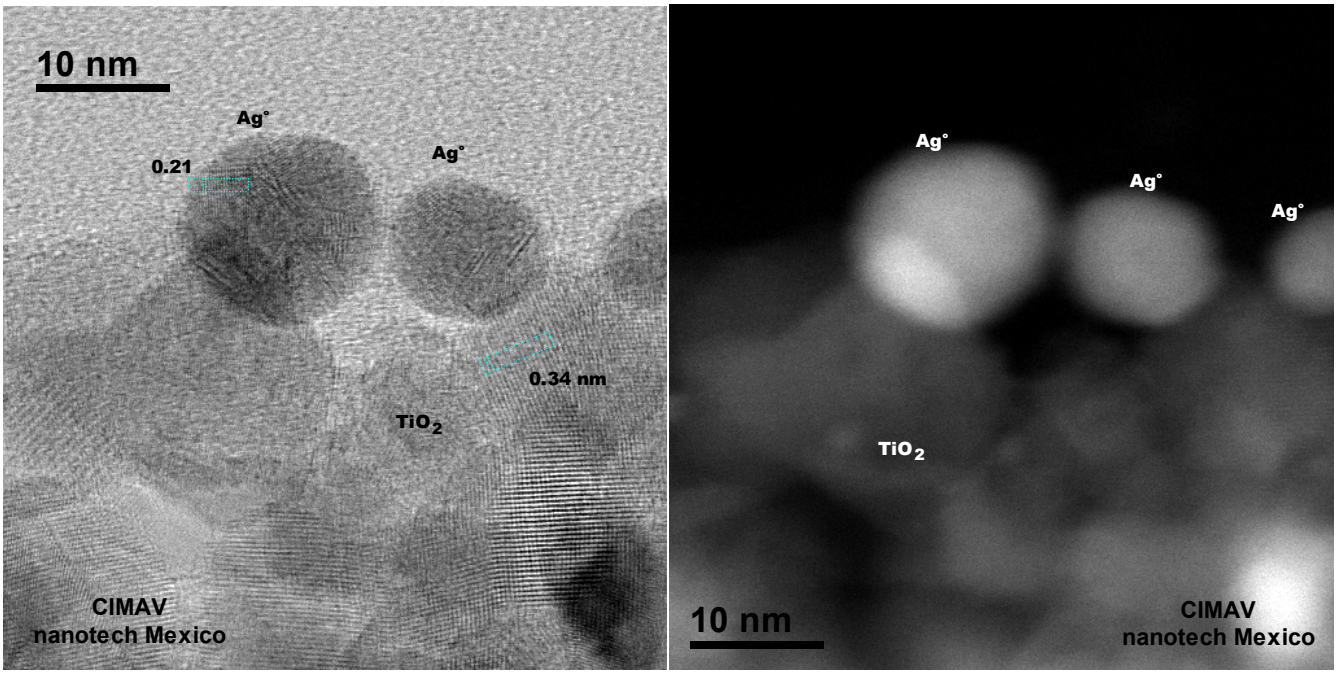


**Figure S3**. TEM observations in a HRTEM and High-Angle Annular Dark-Field (HAADF) modes for the commercial Ag/TP25composite where it is detect the interplanar spacing of $TiO_2$ anatase and AgNPs.

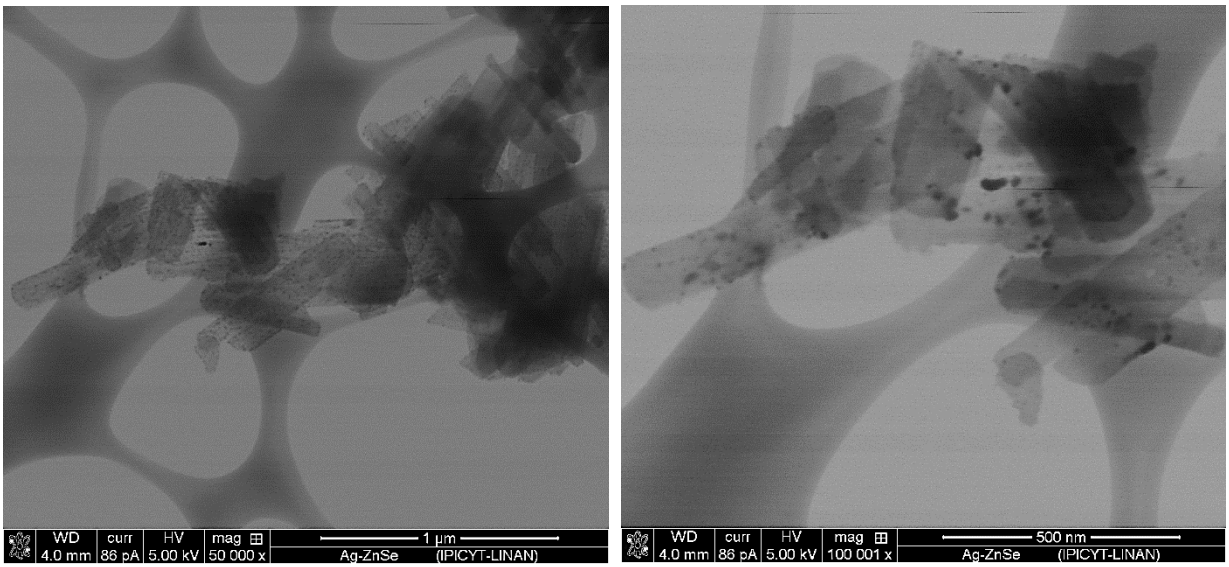


**Figure S4**. STEM images for the Ag°NPS dispersed on sheets of Ag/ZnS(en)0.5. This sheets are large and of different length sizes.

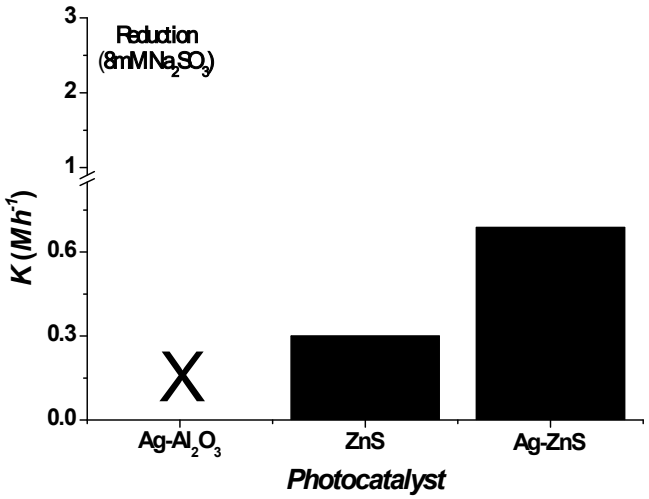


**Figure S5**. Pseudo zero order rate constant value for the photoreduction of 4-NPate using AgNPS dispersed on different substrates. The photocatalytic activity of AgNPs over $Al_2O_3$ (dielectric) is negligible, but when AgNPS is dispersed over $Ag/ZnS(en)_{0.5}$ semiconductor the photocatalytic activity is improved only twice.