Supporting Information for

Experimental and *ab initio* studies of structural, magnetic, photocatalytic and antibacterial properties of Cu-doped ZnO nanoparticles

Ariunzaya Tsogoo,^{a,b} Ninjbadgar Tsedev,^{c,d,e} Alain Gibaud,^a Philippe Daniel,^a Abdelhadi Kassiba,^a Masayuki Fukuda,^d Yoshihiro Kusano,^{e,f} Masaki Azuma,^d Namsrai Tsogbadrakh,^g Galbadrakh Ragchaa,^g Rentsenmyadag Dashzeveg,^{b*} and Erdene-Ochir Ganbold,^{g*}

Dr. Erdene-Ochir Ganbold

Department of Physics, School of Arts and Sciences, National University of Mongolia, University Street 1, Sukhbaatar district, Ulaanbaatar, 14201, Mongolia.

Email: <u>erdeneochir_g@num.edu.mn</u>

Dr. Rentsenmyadag Dashzeveg

Department of Chemistry, School of Arts and Sciences, National University of Mongolia, University Street 1, Sukhbaatar district, Ulaanbaatar, 14201, Mongolia

Email: <u>d_rentsenmyadag@num.edu.mn</u>

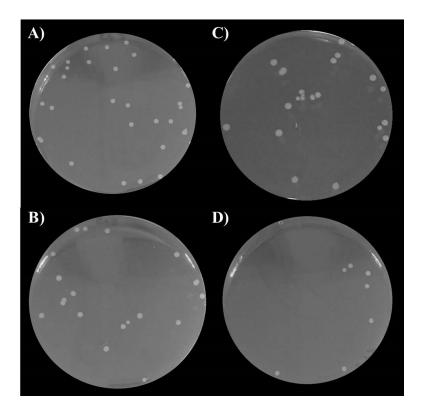


Figure S1. Antibacterial activity of Cu-doped ZnO nanoparticles against *E. coli*. Undoped ZnO nanoparticles (A), 1 mol% Cu-doped nanoparticles (B), 3 mol% Cu-doped nanoparticles (C) and 5 mol% Cu-doped nanoparticles (D), respectively.

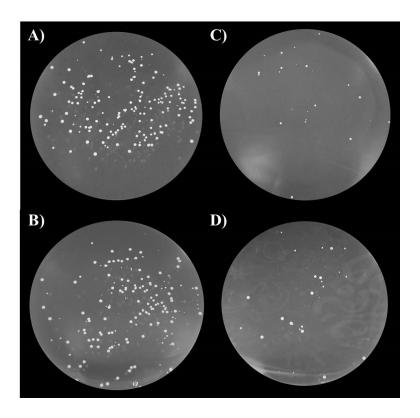


Figure S2. Antibacterial activity of Cu-doped ZnO nanoparticles against *S.aureus*. Undoped ZnO nanoparticles (A), 1 mol% Cu-doped nanoparticles (B), 3 mol% Cu-doped nanoparticles (C) and 5 mol% Cu-doped nanoparticles (D), respectively.