

## Key parameters to enhance the antibacterial effect of graphene oxide in solution

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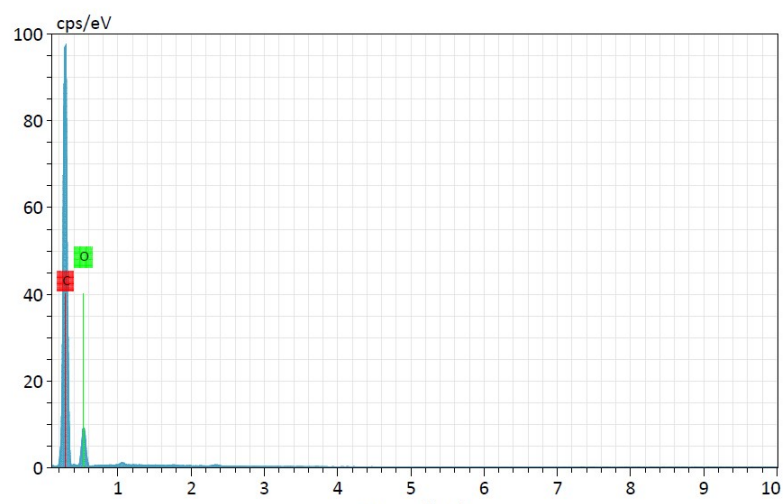


Figure S1. EDX spectrum of GO sample

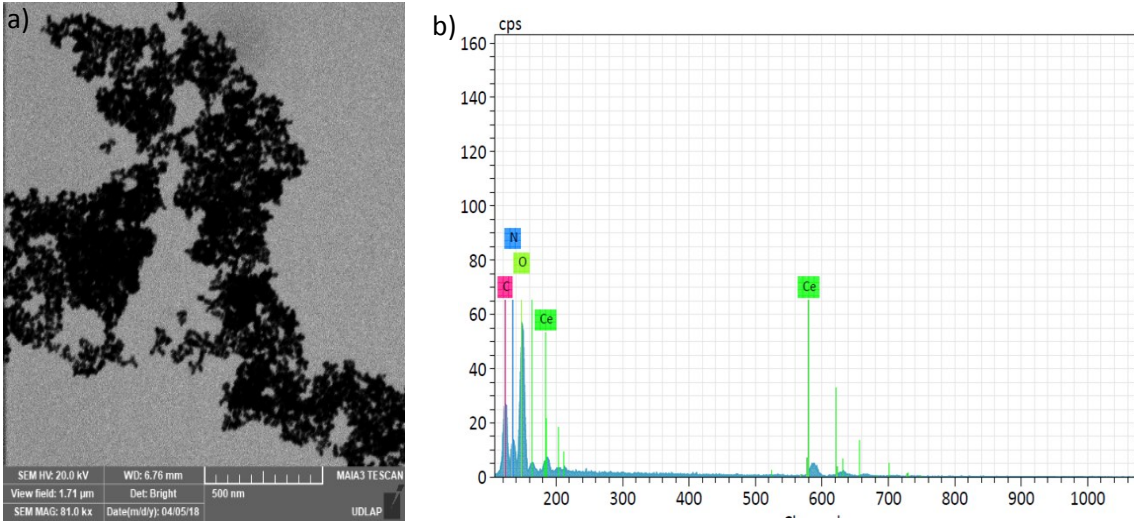


Figure S2. a) Bright field STEM image of CeO<sub>2</sub> nanoparticles and b) EDX analysis of the same material

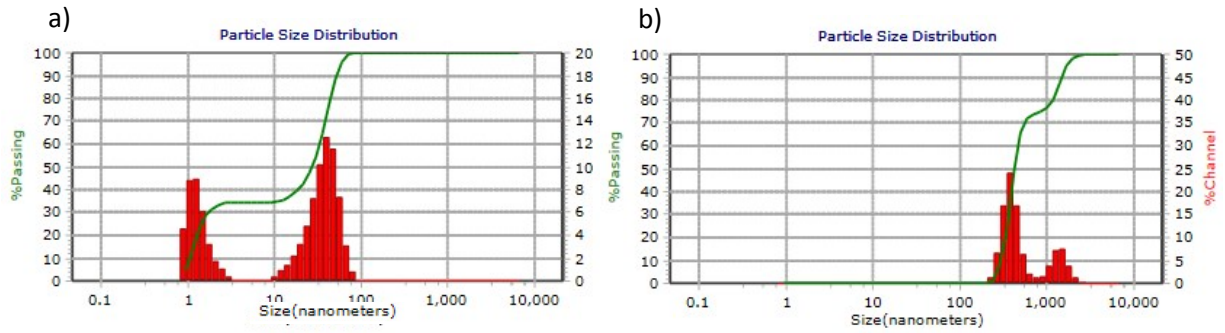


Figure S3. Dynamic light scattering measurements of a) Ag and b) CeO<sub>2</sub> nanoparticles

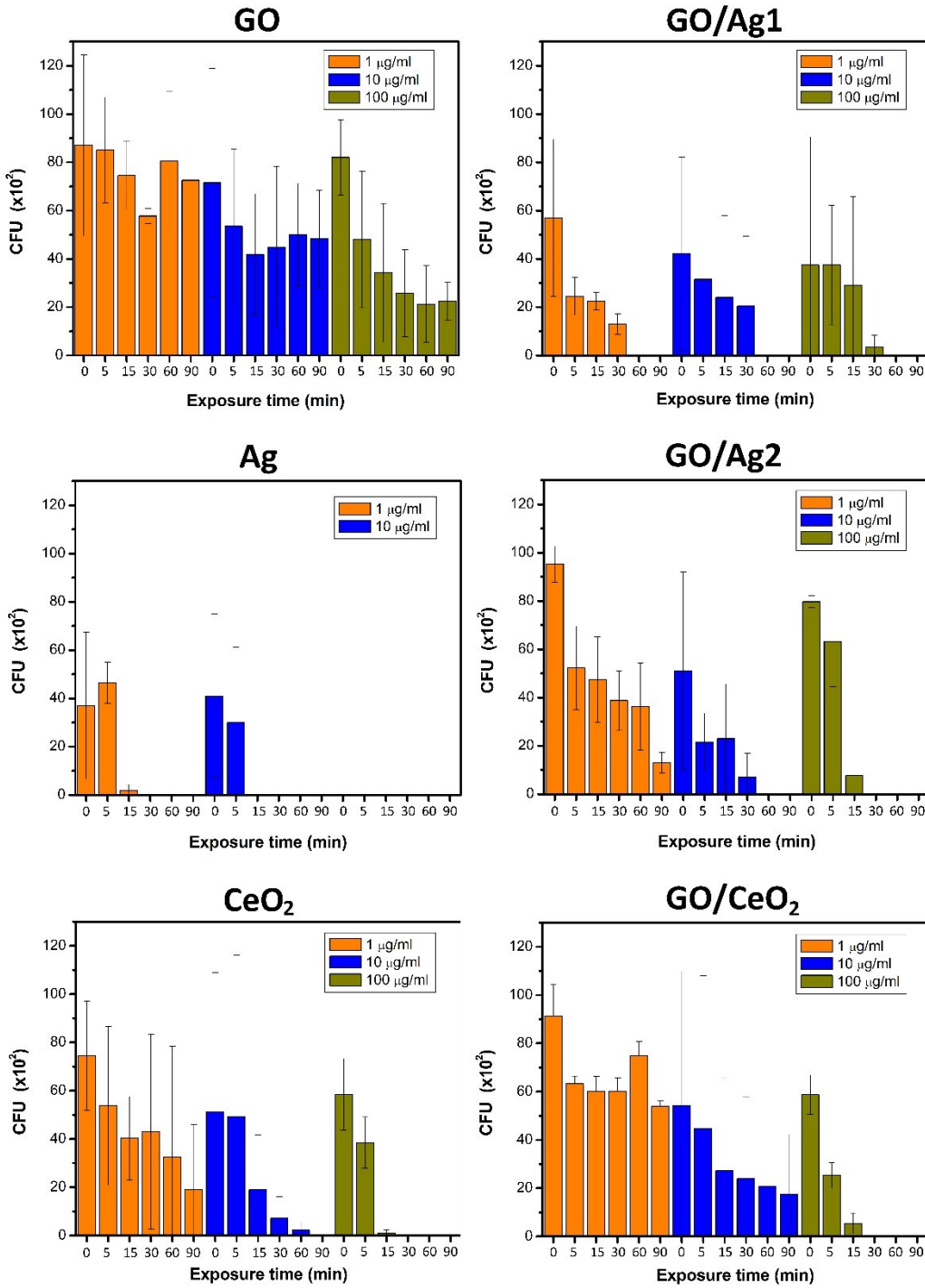


Figure S4. Colony forming units (CFU) count for *E. coli* when exposed to the tested materials at exposure times of 0, 5, 15, 30, 60 and 90 minutes in sterile water and then plated in Petri dishes with agar

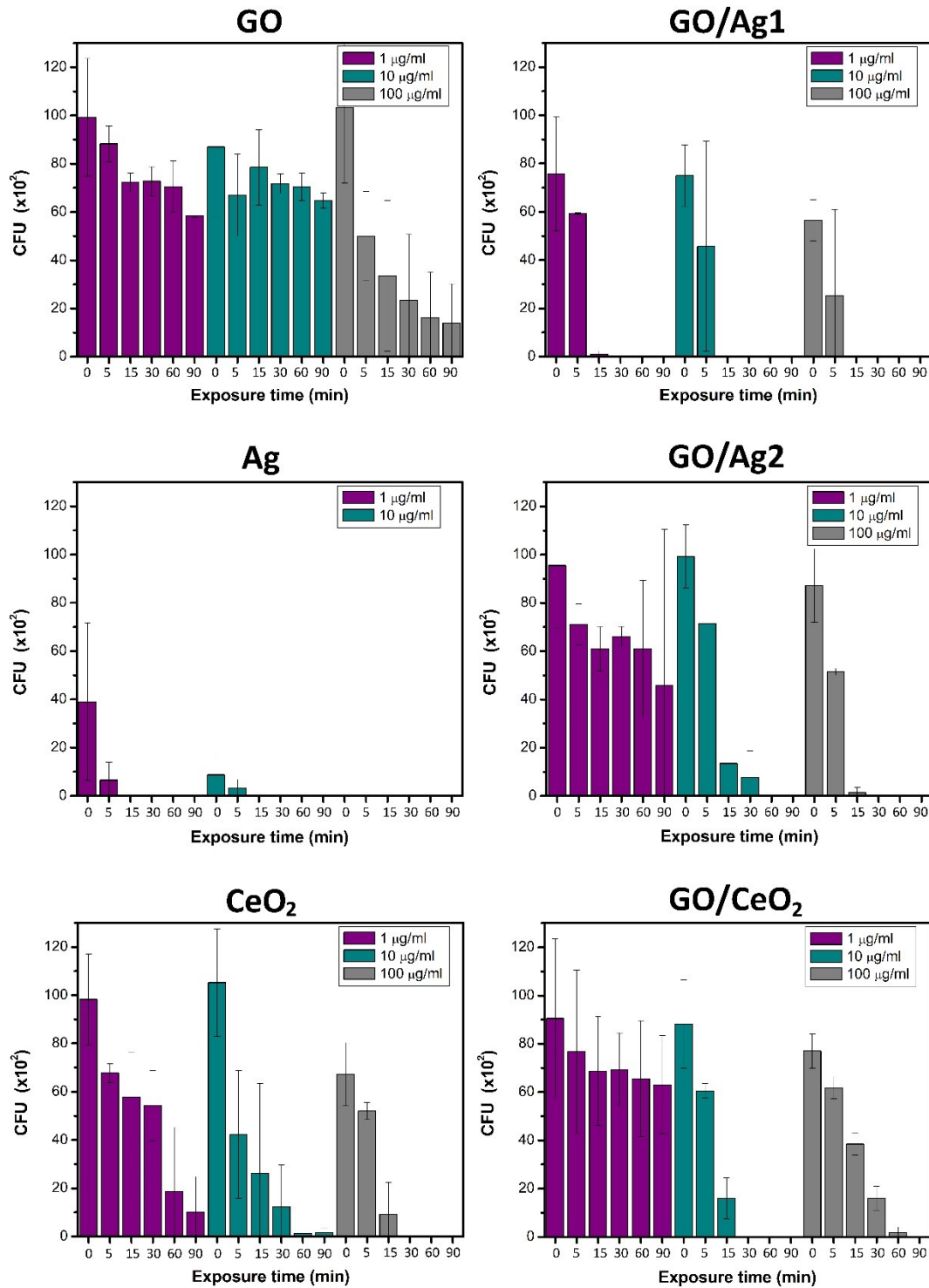


Figure S5. Colony forming units (CFU) count for *Salmonella serovar Typhimurium* when exposed to the tested materials at exposure times of 0, 5, 15, 30, 60 and 90 minutes in sterile water and then plated in Petri dishes with agar