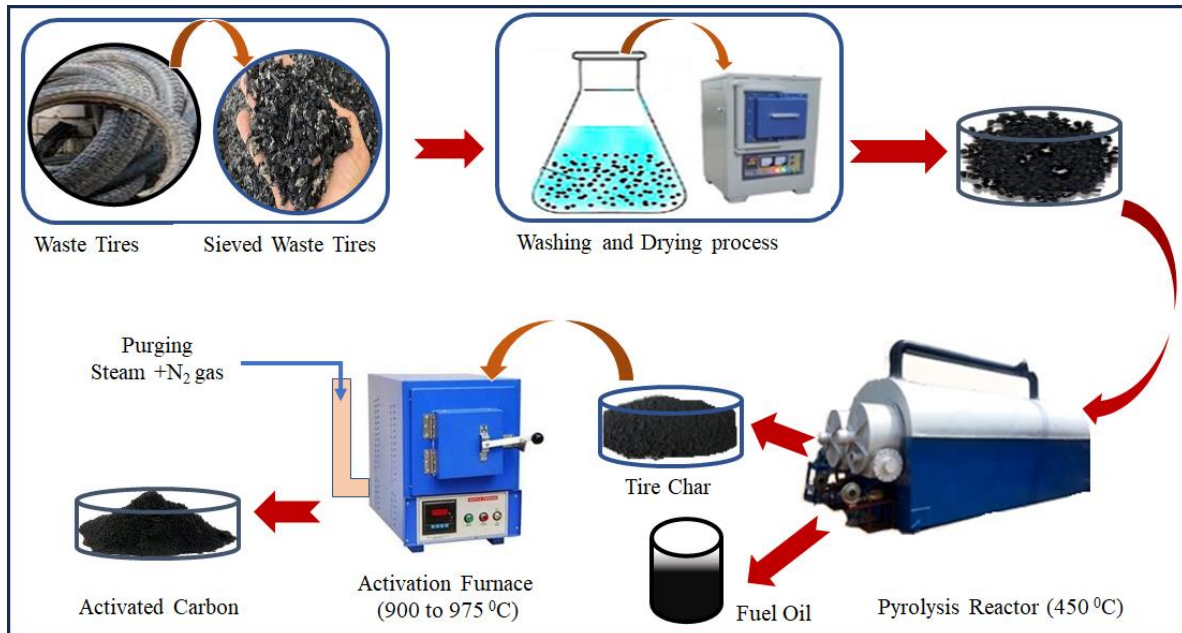
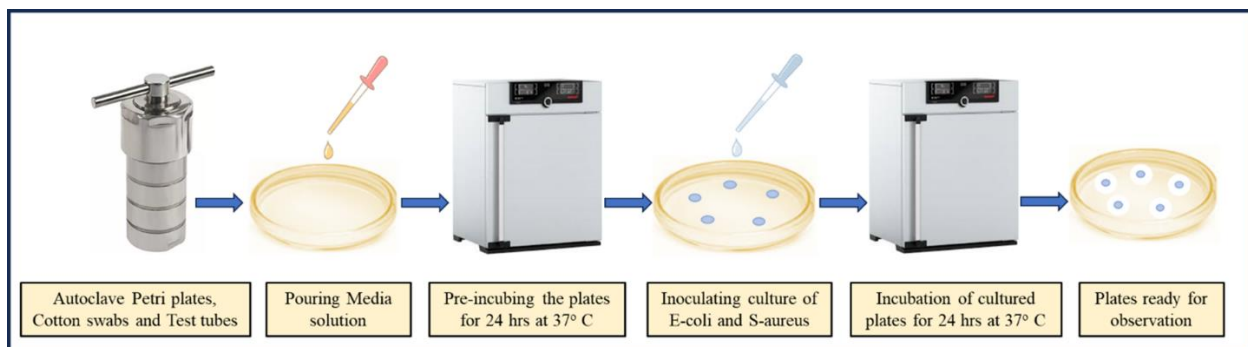


Supporting Information for

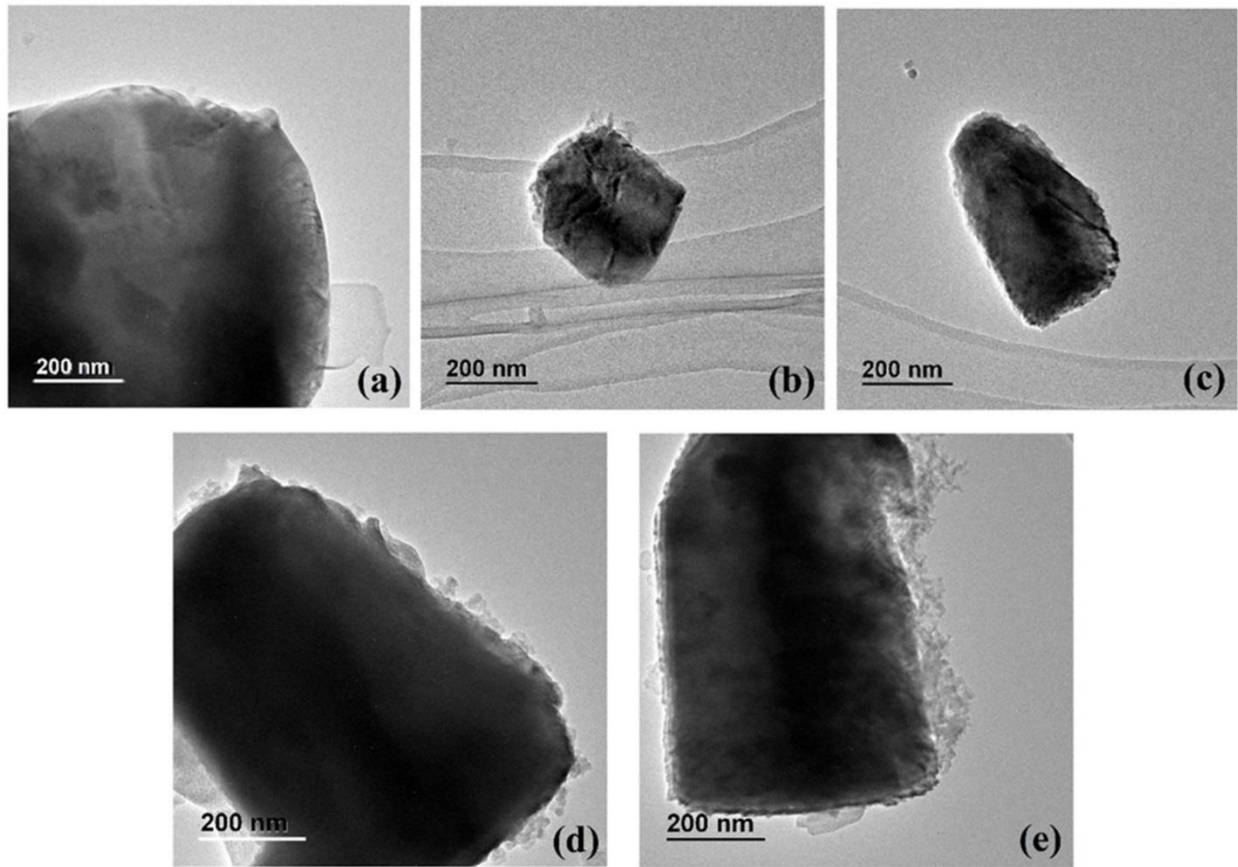
Facile Synthesis of Waste Tire Scrap Derived Activated Carbon-ZnO Nanocomposite for the Photodegradation of Malachite Green and Antibacterial Activity



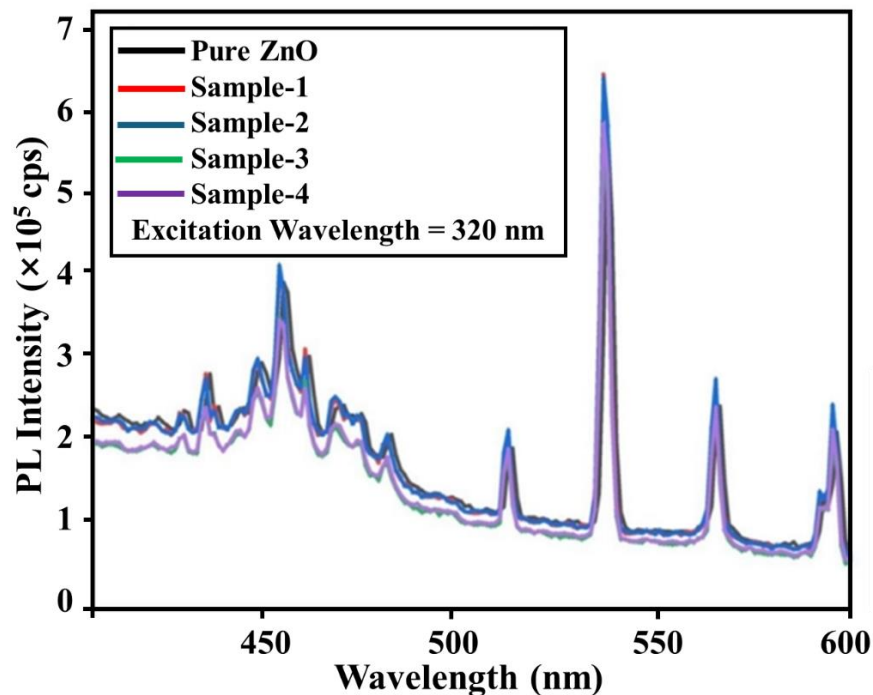
S1. Schematic diagram to synthesis of activated carbon using pyrolysis method.



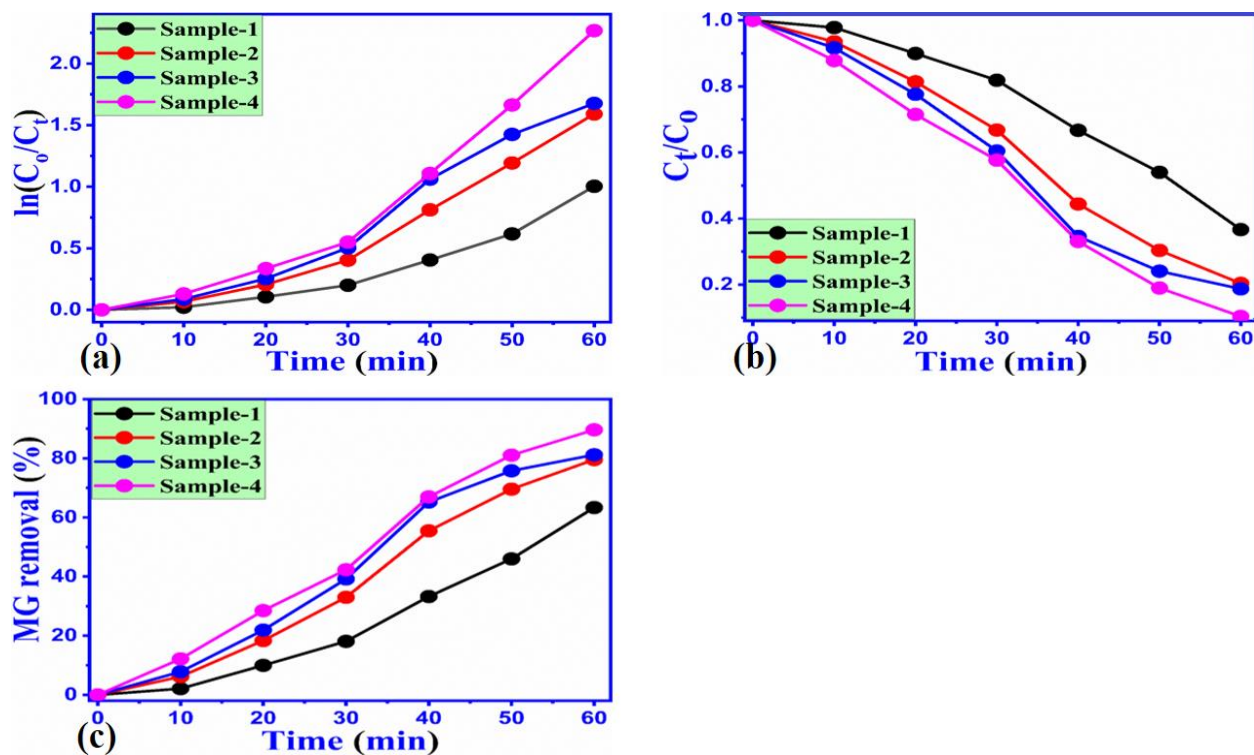
S2. The schematic diagram for the experimental setup of antibacterial activity of pure ZnO and AC-assisted ZnO@C nanocomposites.



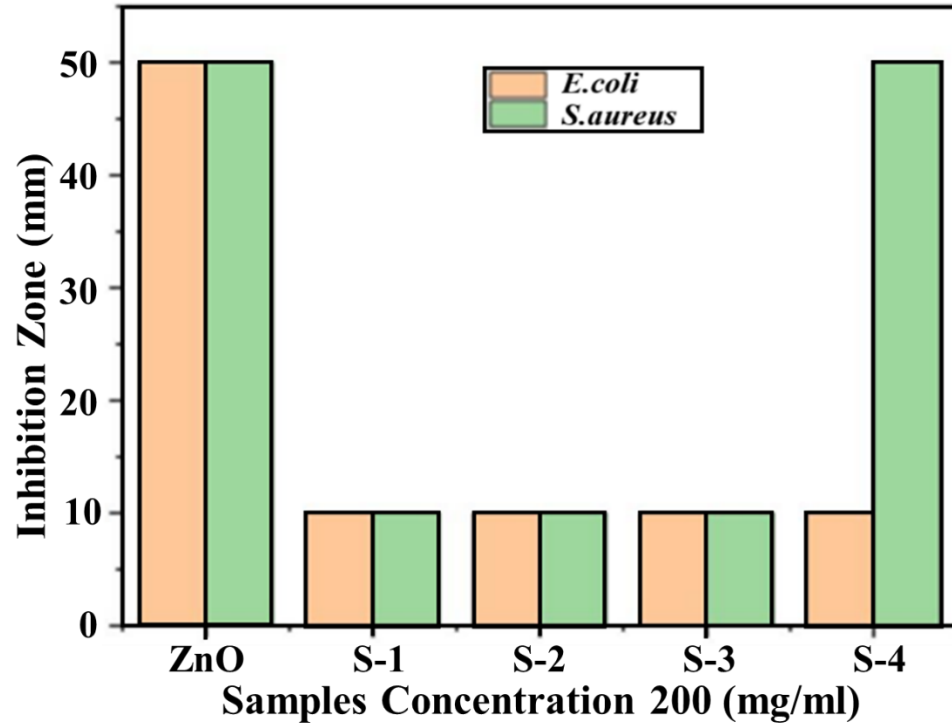
S3. TEM analysis of pure ZnO and AC-assisted ZnO@C nanocomposites: (a) Pure ZnO (b) Sample-1, (c) Sample-2, (d) Sample-3, and (e) Sample-4



S4. Photoluminescence spectra of AC-assisted ZnO@C nanocomposite samples 1, 2, 3, and 4 and their comparison with the pure ZnO.



S5. (a, b) degradation kinetics of various AC-assisted ZnO@C nanocomposite samples 1, 2, 3, and 4 at 8.22×10^{-5} M MG dye concentration, (c) Degradation efficiency.



S6. Bar diagram showing the antibacterial effect of pure ZnO and four AC-assisted ZnO@C nanocomposites (samples 1, 2, 3, and 4) against *E. coli* and *S. aureus* bacteria.