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Design of a piezo-photocatalytic system using both fluid and visible light as driving energy

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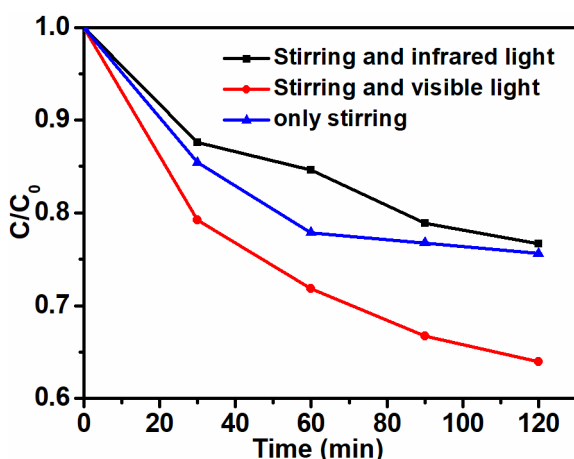


Fig. S1. The degradation curves of tetracycline antibiotics. Black line: ZnO-PI film with stirring at 900 rpm and infrared light; red line: ZnO/Ag-PI film with stirring at 900 rpm and visible light; blue line: ZnO/Ag-PI film with only stirring at 900 rpm.

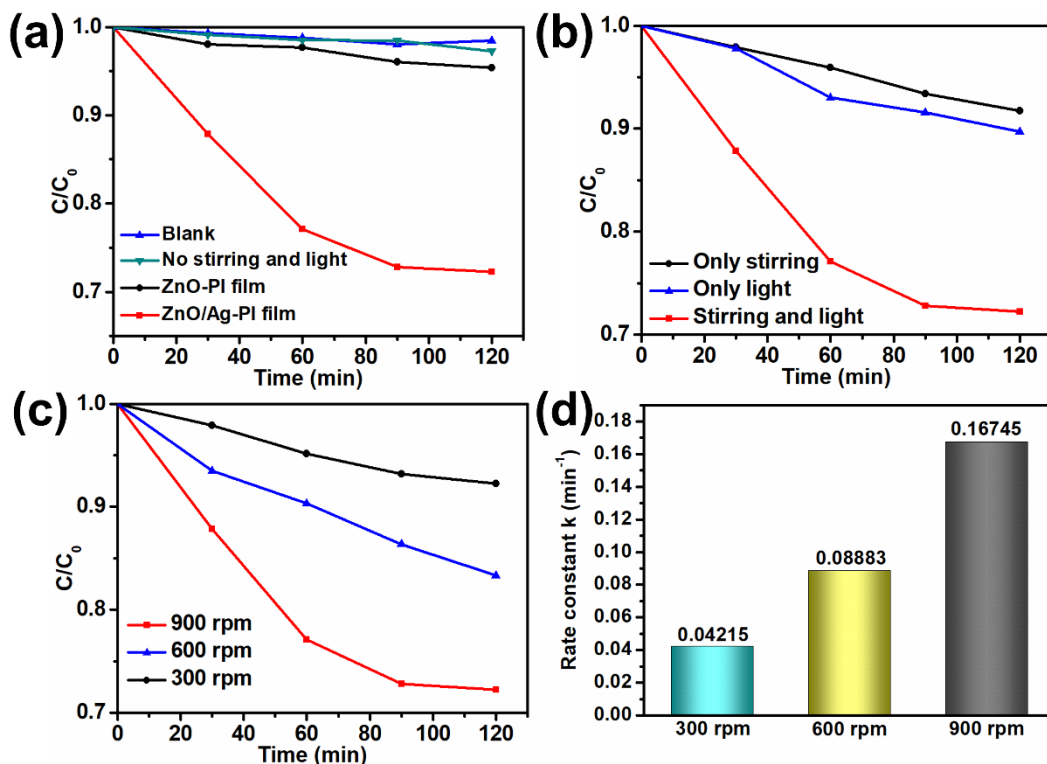


Fig. S2. (a) The degradation curves of RhB (Reaction conditions: blue line (Blank: no catalysts but with

stirring at 900 rpm and visible light); green line (No stirring and light: no stirring and light but with ZnO-PI film); black line (ZnO-PI film: stirring at 900 rpm, visible light); red line (ZnO/Ag-PI film: stirring at 900 rpm, visible light)); (b) The degradation curves of RhB using ZnO/Ag-PI film with or without stirring at 900 rpm or visible light; (c) The degradation curves of RhB using ZnO/Ag-PI film with different rotating speeds under visible light; (d) the first-order degradation rate constants using ZnO/Ag-PI film with different rotating speeds under visible light.

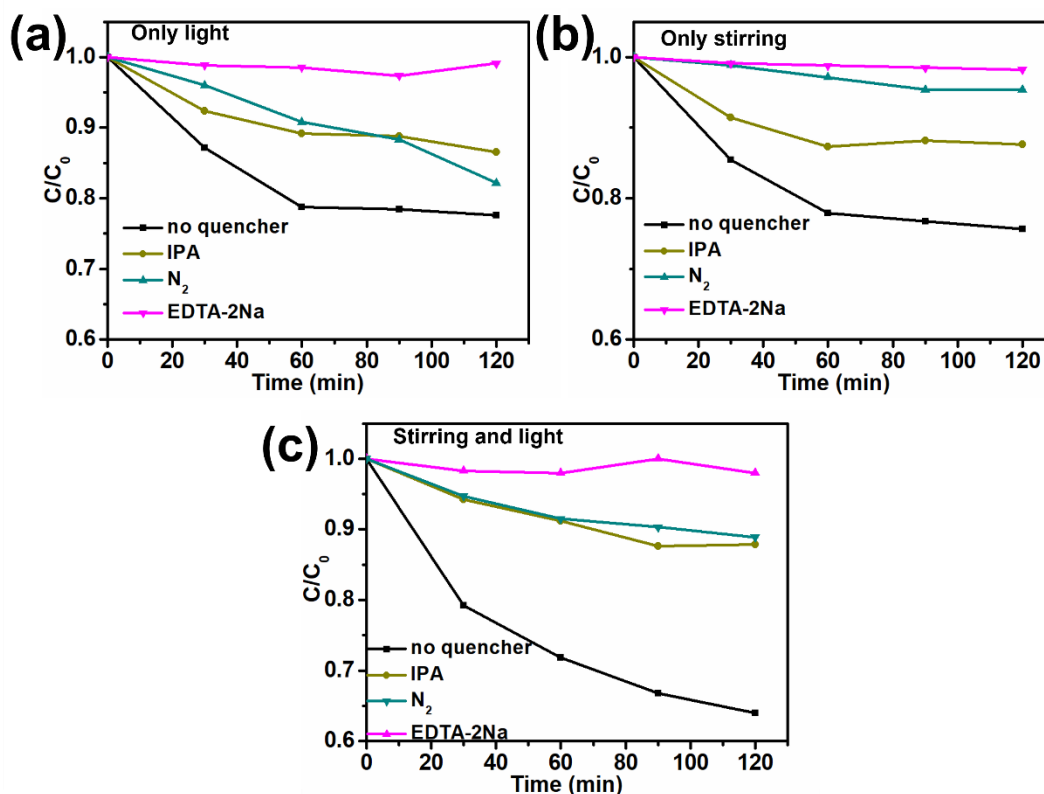


Fig. S3. The degradation curves of tetracycline antibiotics with scavengers using ZnO/Ag-PI film with or without stirring at 900 rpm or visible light.

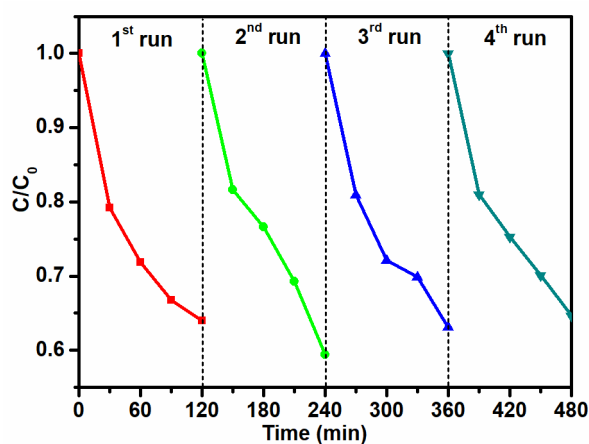


Fig. S4. The repeatability and lifetime of ZnO/Ag-PI film with stirring at 900 rpm and visible light in tetracycline antibiotics solution.

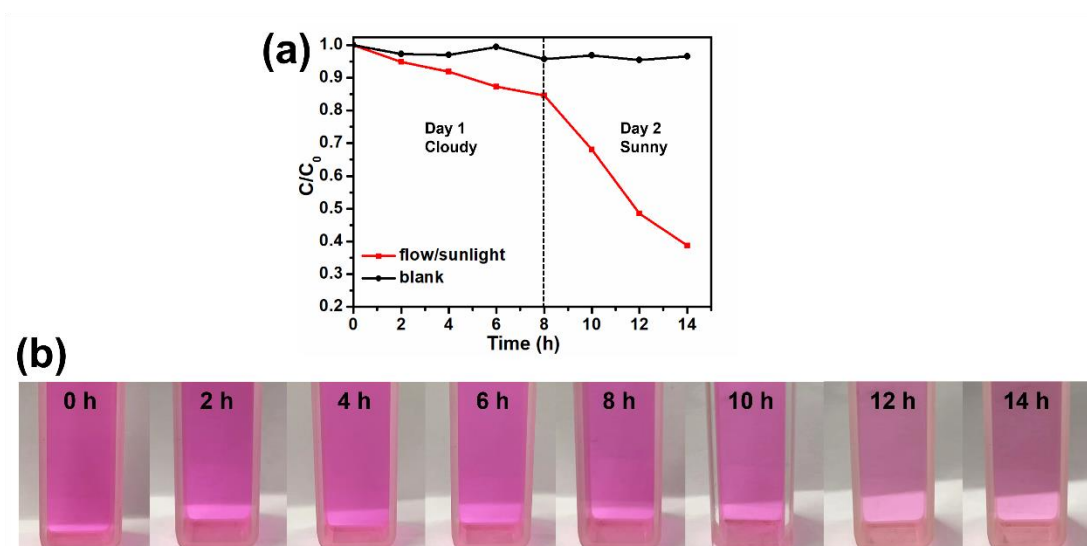


Fig. S5. (a) The degradation curves of RhB (blank: no catalysts but with stirring at 900 rpm and sunlight; flow/sunlight: ZnO/Ag-PI film with stirring at 900 rpm and sunlight); (b) RhB solution changed color over time.