**Sustainable fabrication of silver-titania nanocomposites using goji berry (*Lycium barbarum* L.) fruit extract and their photocatalytic and antibacterial applications**

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**Fig. S1.** FT-IR spectrum of GB fruit extract.



**Fig. S2.** SEM analysis of the (a) bare TiO2-NPs, (b), 0.5 mM, (c) 1.0 mM, and (d) 1.5 mM Ag-TiO2 NCs, respectively. EDX analysis of (a1) bare TiO2-NPs, (b1) 0.5 mM, (c1) 1.0 mM, and (d1) 1.5 mM Ag-TiO2 NCs, respectively.





**(f)**

**(e)**

**Fig. S3.** Photocatalytic degradation of MB. Photographs of photocatalytic degradation of MB (No catalyst, control) at (a) 0 min and (b) 150 min, and by TiO2-NPs at (c) 0 min and (d) 150 min. UV-vis spectra of MB degradation by (e) control and (f) TiO2-NPs at different time intervals.



**Fig. S4.** Antibacterial activity of (a) ampicillin (200 µg; 200 mg/mL) and (b) goji berry extract (100 µl; 2.8 mg/mL) against *E. coli* and *S. aureus*.