

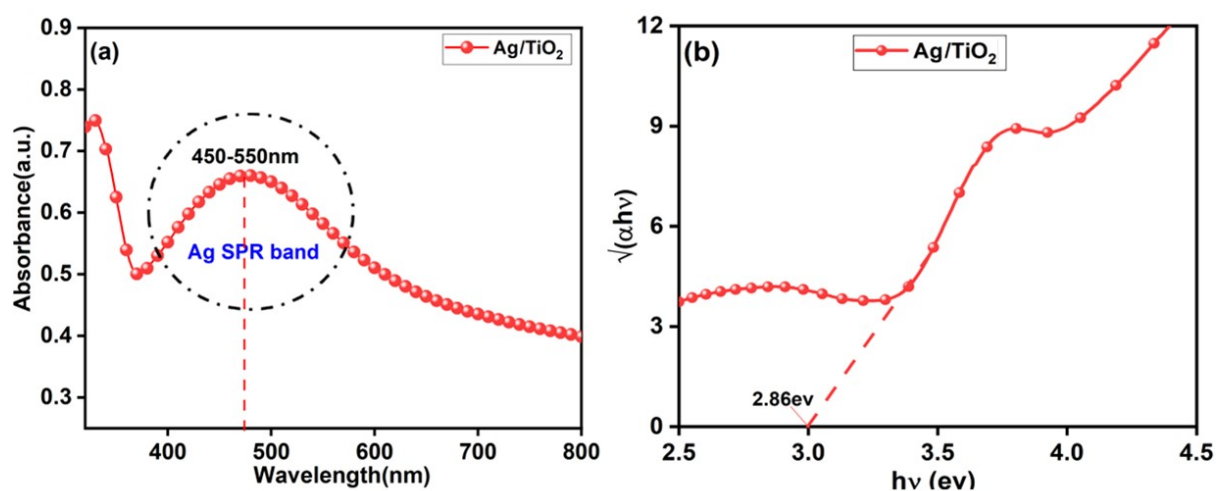


Fig. S1. (a) The DRS spectra and (b) Tauc plot for Ag/TiO₂ nanocomposites.

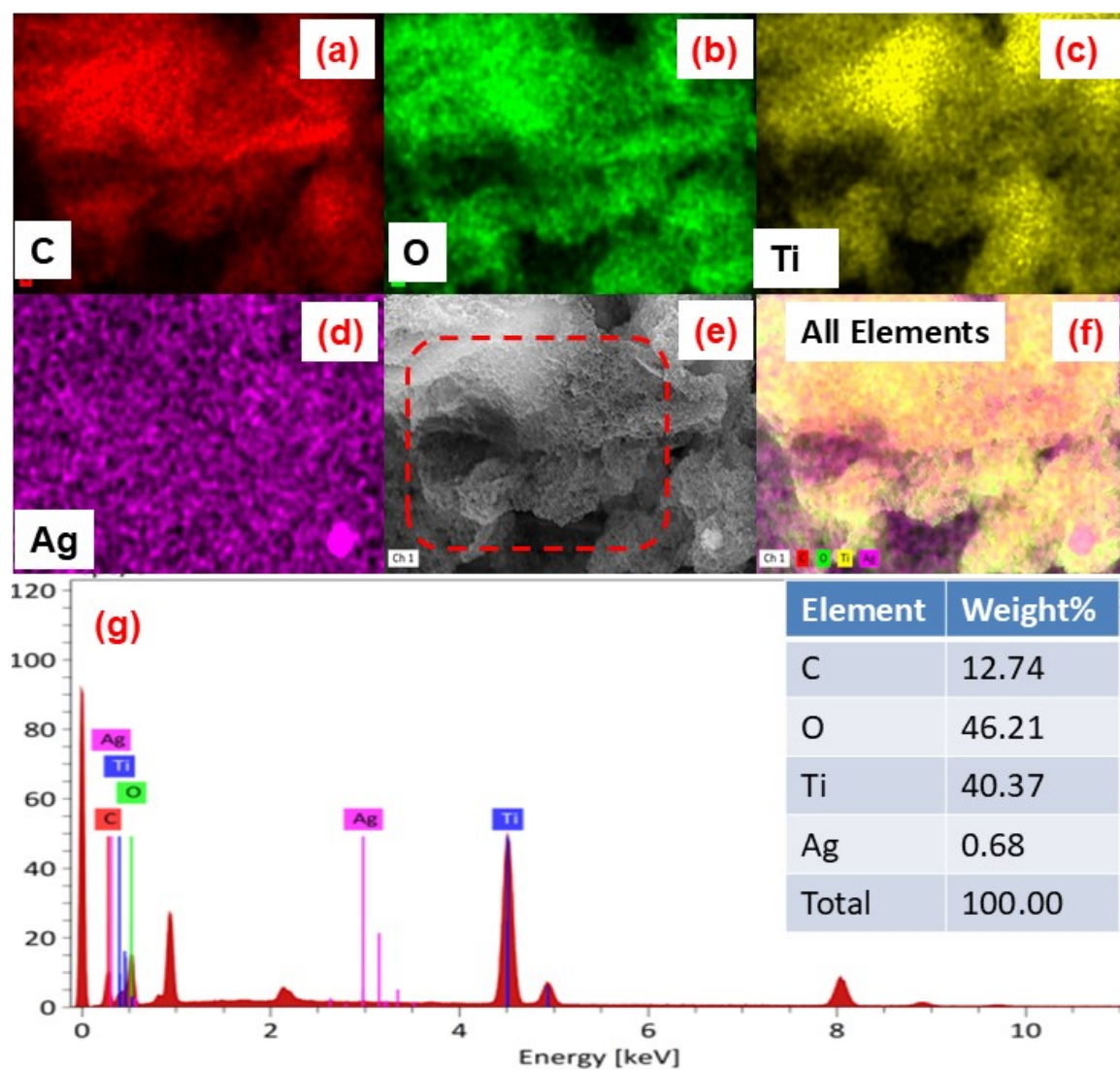


Fig. S2. Elemental analysis (a-f) shows the color-coded distribution of C, O, Ti, and Ag, and EDX analysis (g) details the composition of the quaternary nanocomposite.

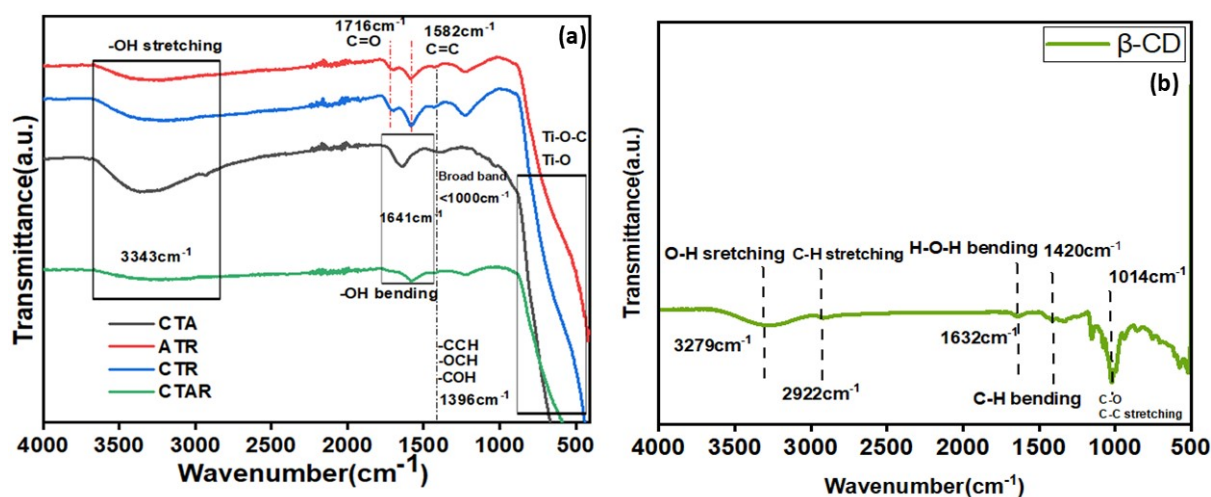


Fig S3 Fourier Transform spectra of (a) β -CD/TiO₂@Ag, Ag/TiO₂@RGO, β -CD/TiO₂/RGO, β -CD/TiO₂/Ag/RGO and (b) β -CD only.

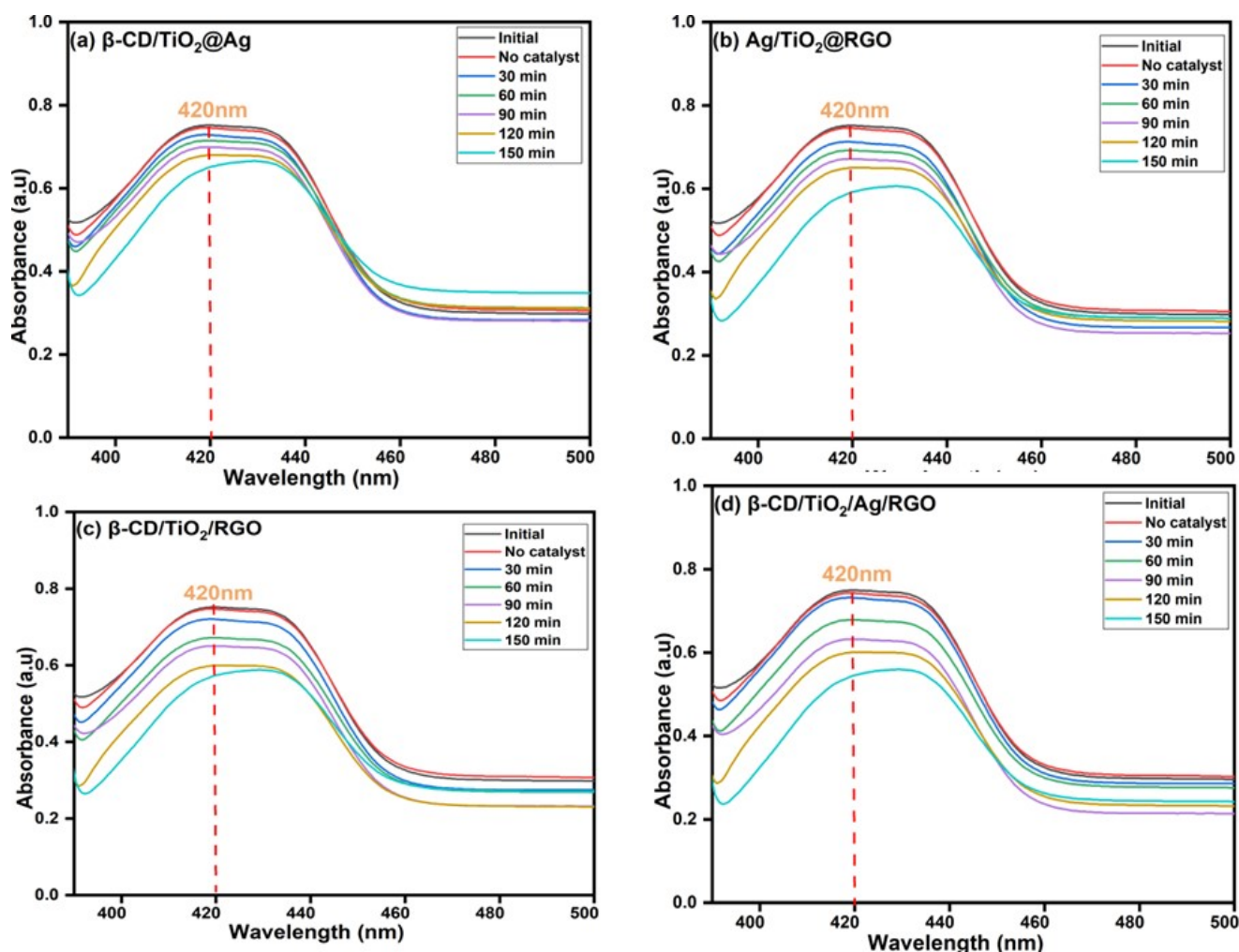


Fig. S4. Variation of UV-visible spectra in the presence of (a) β -CD/TiO₂@Ag, (b) Ag/TiO₂@RGO, (c) β -CD/TiO₂/RGO, and (d) β -CD/TiO₂/Ag/RGO under dark conditions.

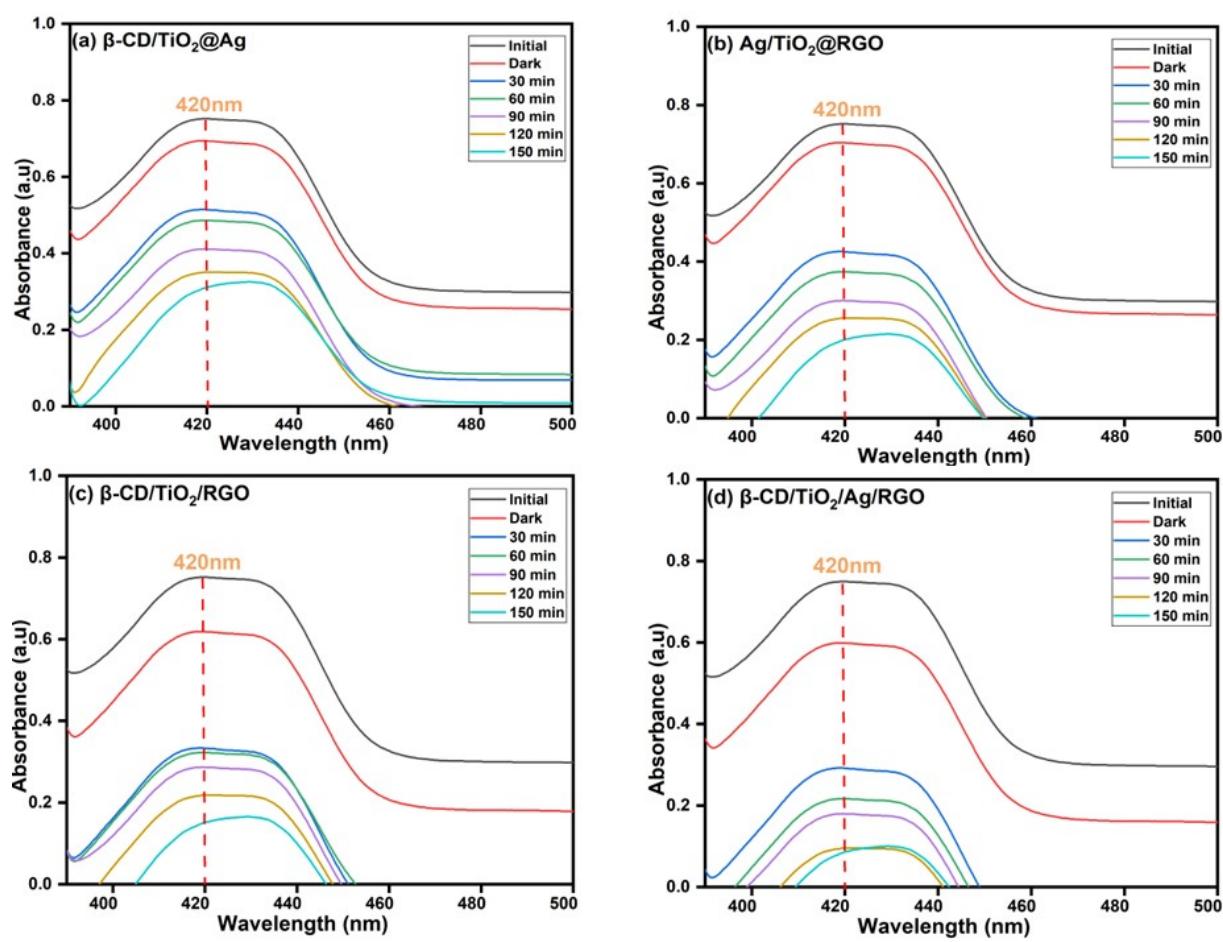


Fig. S5. Variation of UV-visible spectra in the presence of (a) β -CD/TiO₂@Ag, (b) Ag/TiO₂@RGO, (c) β -CD/TiO₂/RGO, and (d) β -CD/TiO₂/Ag/RGO under solar light irradiation.