

Electronic Supplementary Information

One-pot hydrothermal synthesis of TiO₂/graphene nanocomposites for enhanced visible photocatalysis and photovoltaics

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Fig S1 The plot showing the band gap shift in TGC-10 compared to the bare TiO₂.

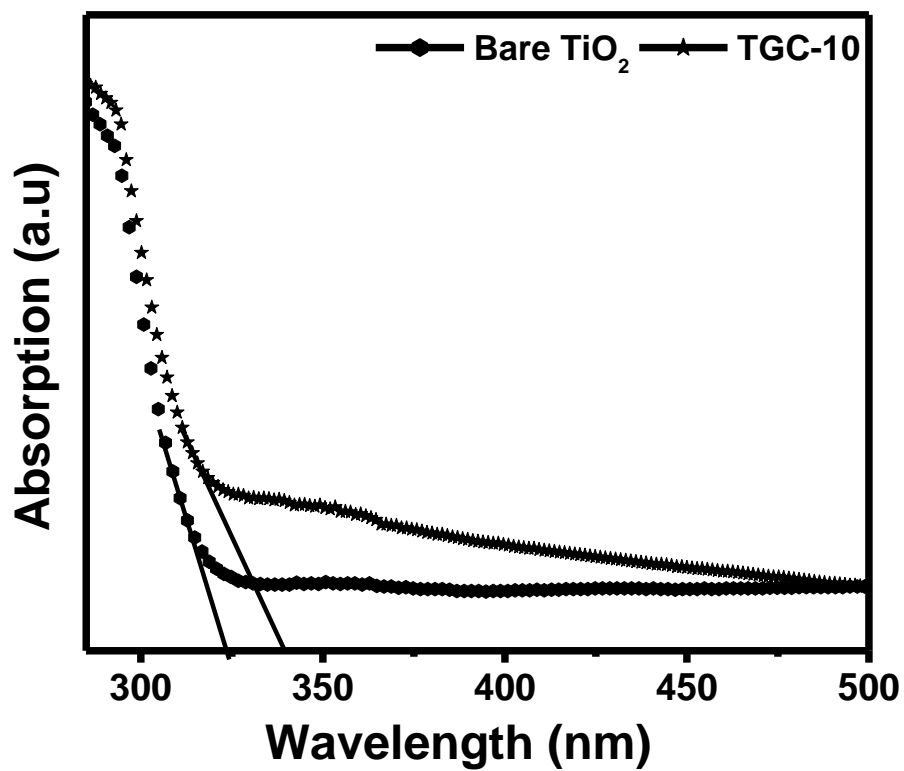


Fig S2 The UV-Vis spectra showing the dye degradation for different weight percentages of graphene. (A) Bare TiO₂ (B) TGC-1 (C) TGC-5 (D) TGC-10

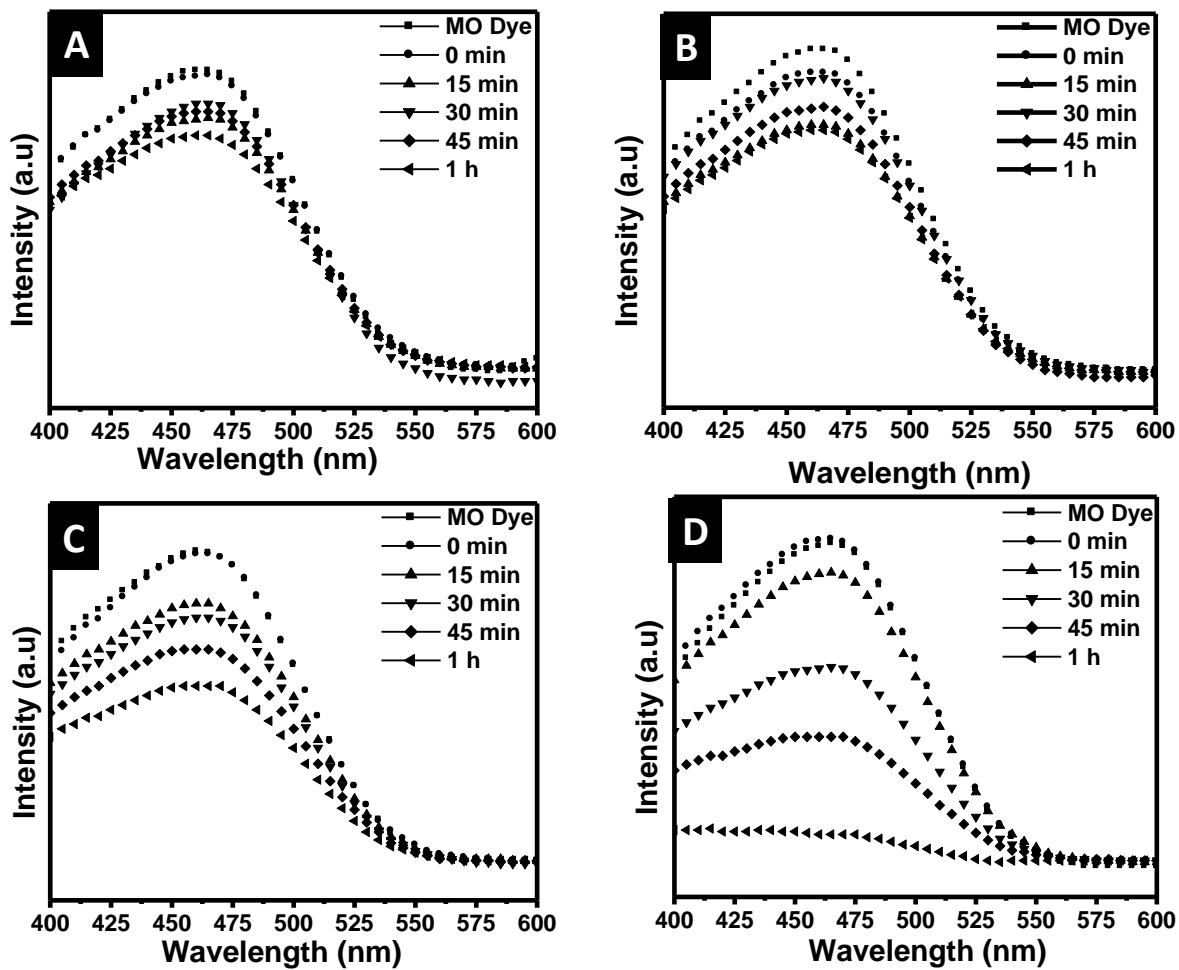


Fig S3 The N₂ adsorption isotherm showing the surface area of the prepared TGC-10 sample.

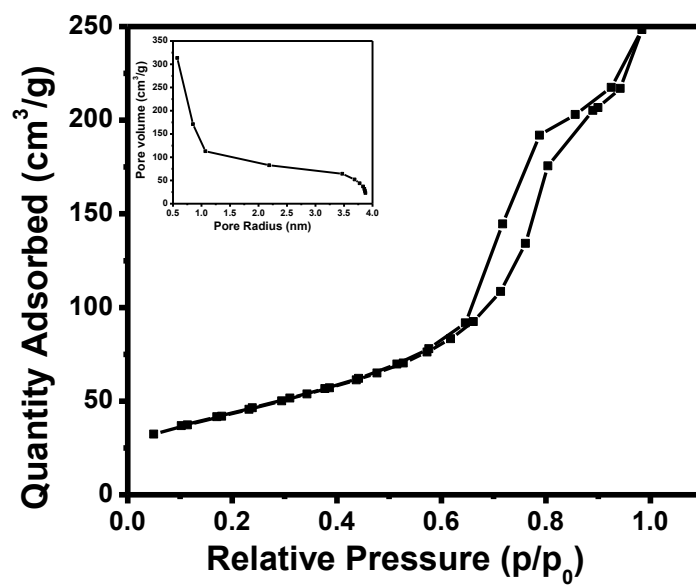


Fig S4 The photoactivity plots for a) Graphene alone b) MO dye alone

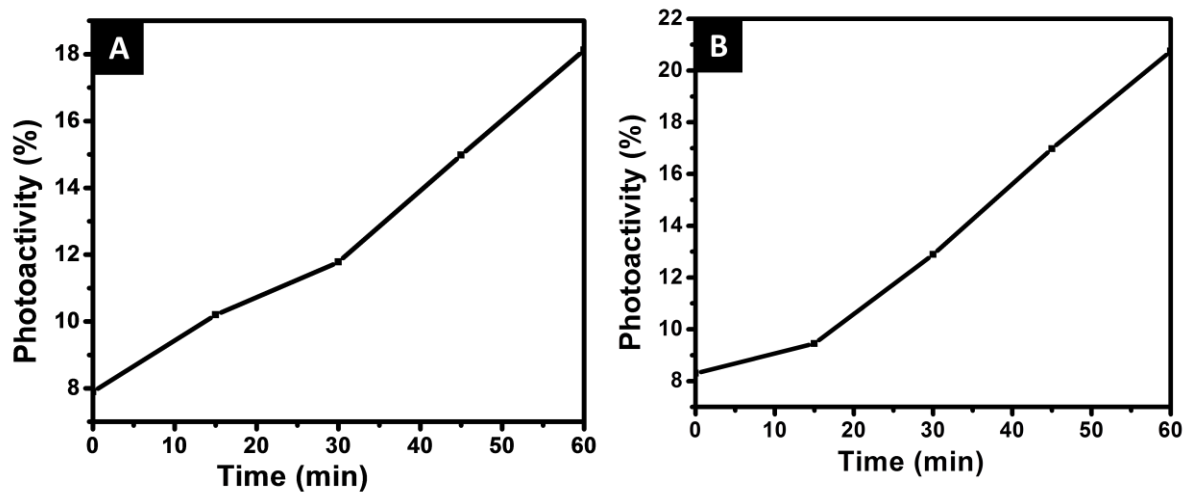


Fig S5 XPS showing the increase in concentration of graphene a) Wide spectra of TiO₂-G nanocomposite b) Carbon spectra showing the different concentrations of graphene.

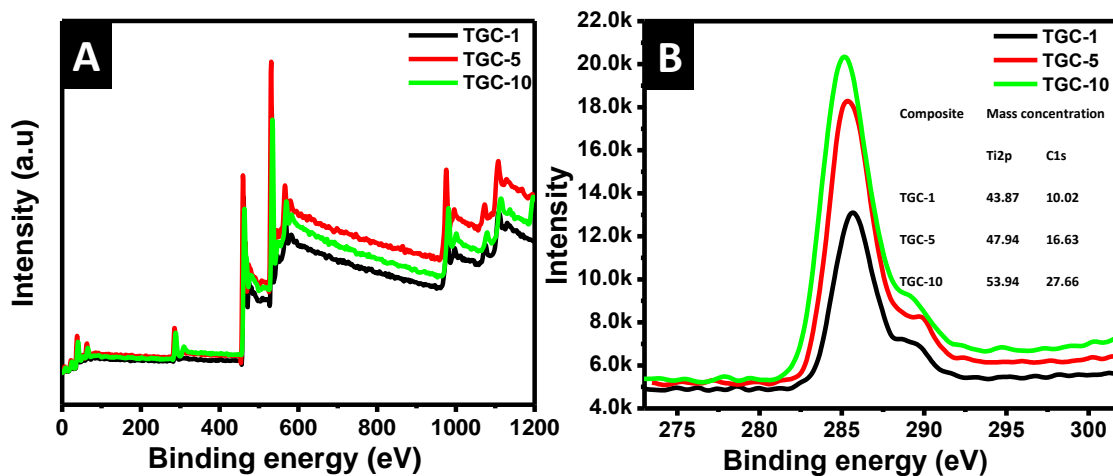


Table S1: Comparison of I-V characteristics of bare TiO₂ with TGCs 1, 0.7 and 0.5.

Sample	I_{sc} (mA/cm²)	V_{oc} (V)	FF	η (%)
Bare TiO ₂	4.29	0.47	60.27	3.22
TGC-0.5	6.05	0.47	60.67	4.2
TGC-0.7	6.13	0.46	60.71	4.26
TGC-1	4.90	0.50	61.22	4.05