

Electronic Supplementary Material (ESI)
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TiO₂ Nanofibres Decorated with Green Synthesized P_{Au/Ag}@CQDs for Efficient Photocatalytic Degradation of Organic Dyes and Pharmaceutical Drugs

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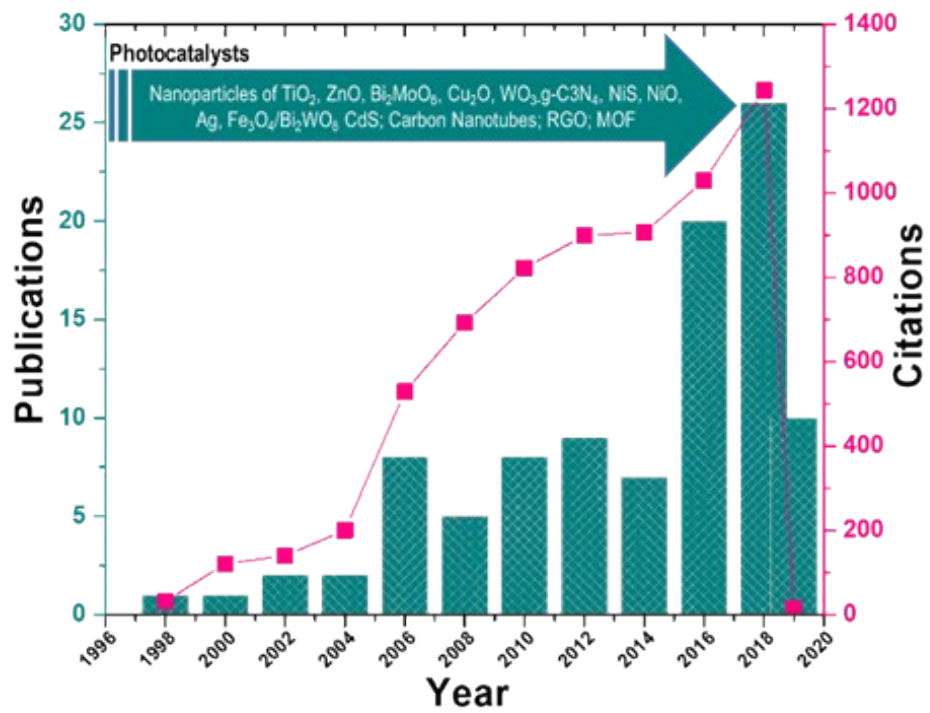
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ESI Table S1: Literature reports on the use of CQDs as photosensitizers for dyes degradation applications

Photocatalyst	Dye	% of Degradation	Time	Ref.
NCQDs/TiO ₂	RhB	95%	30min	1
CQD/P-25	p-nitrophenol	89% - 96%	240min	2
CQD/N-ZnO	MG, MB, fluorescein dye	80%	30-45min	3
CQD/TiO ₂	MB	100%	95min	4
CQD/H-TiO ₂	MO	86%	25min	5
TiO ₂ /CQD	MB	100%	45min	6
CQD/N-ZnO	MG	100%	30min	7
CQD-ZnO	RhB	100%	175min	8
TiO ₂ -CQDs	RhB	100%	75min	9
CQD/BiOCl	RhB, Bisphenol	91%	120min	10
N-CD/TiO ₂ IOS	MB	97.1%	50min	11
CD/CuWO ₄	RhB	88.09%	1.2hr	12
CQD/meso-Ti-450	MB	98%	1hr	13
CQD/BiO _x (X=Cl,Br)	RhB	100%	30min	14
ZnO/CQD	RhB	83%	105min	15
CD/g-C ₃ N ₄	RhB	100%	240min	16
NCQD/TiO ₂	MB	86.9%	420min	17
CQD/N-ZnO	MG	99%	30min	18
CD/TiO ₂ -600	MB	71%	120min	19
CQD/Ag ₃ PO ₄	MB	100%	70min	20
NCQDs/Ag ₃ PO ₄	MO	98%	18min	21

Figure S 1: Research trends in photocatalytic degradation of pharmaceutical drugs focusing on UV-Visible photocatalysts.



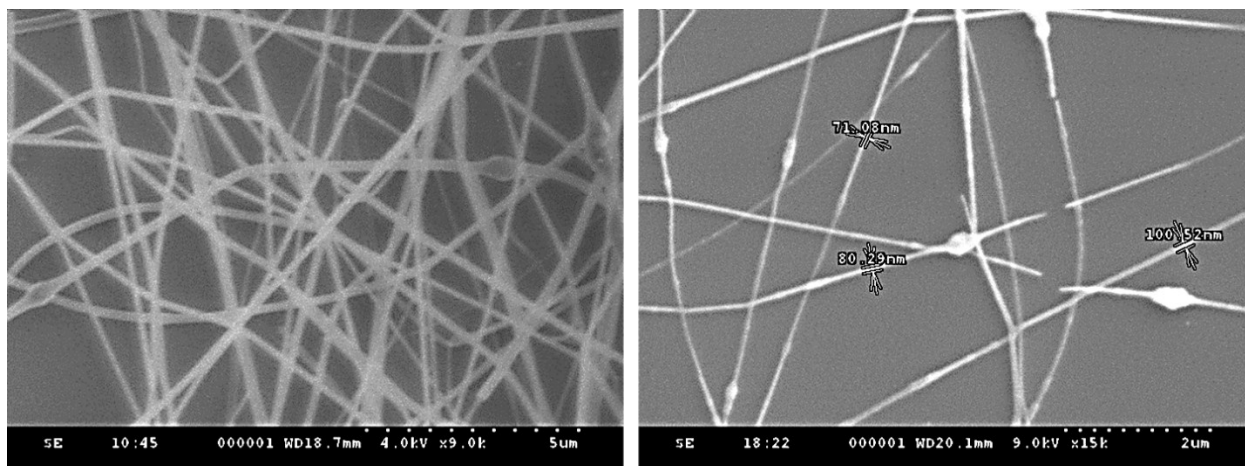


Figure S2: SEM of fibrous TiO₂ nanostructures

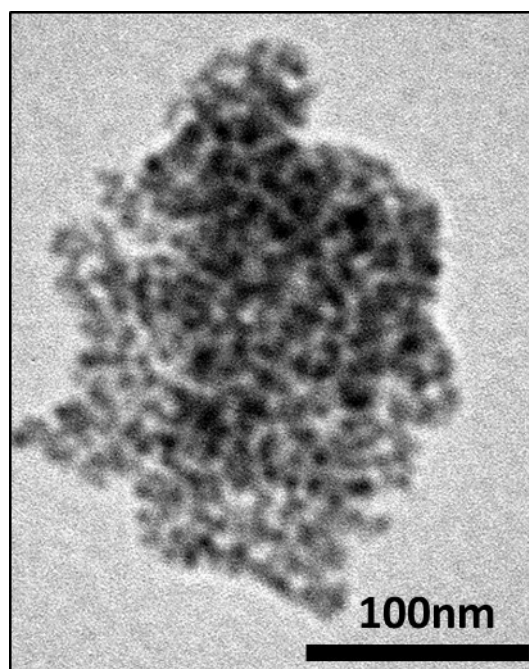


Figure S3: TEM of fibrous P_M -CQDs (where M: Au and Ag) decorated TiO_2 nanofibers

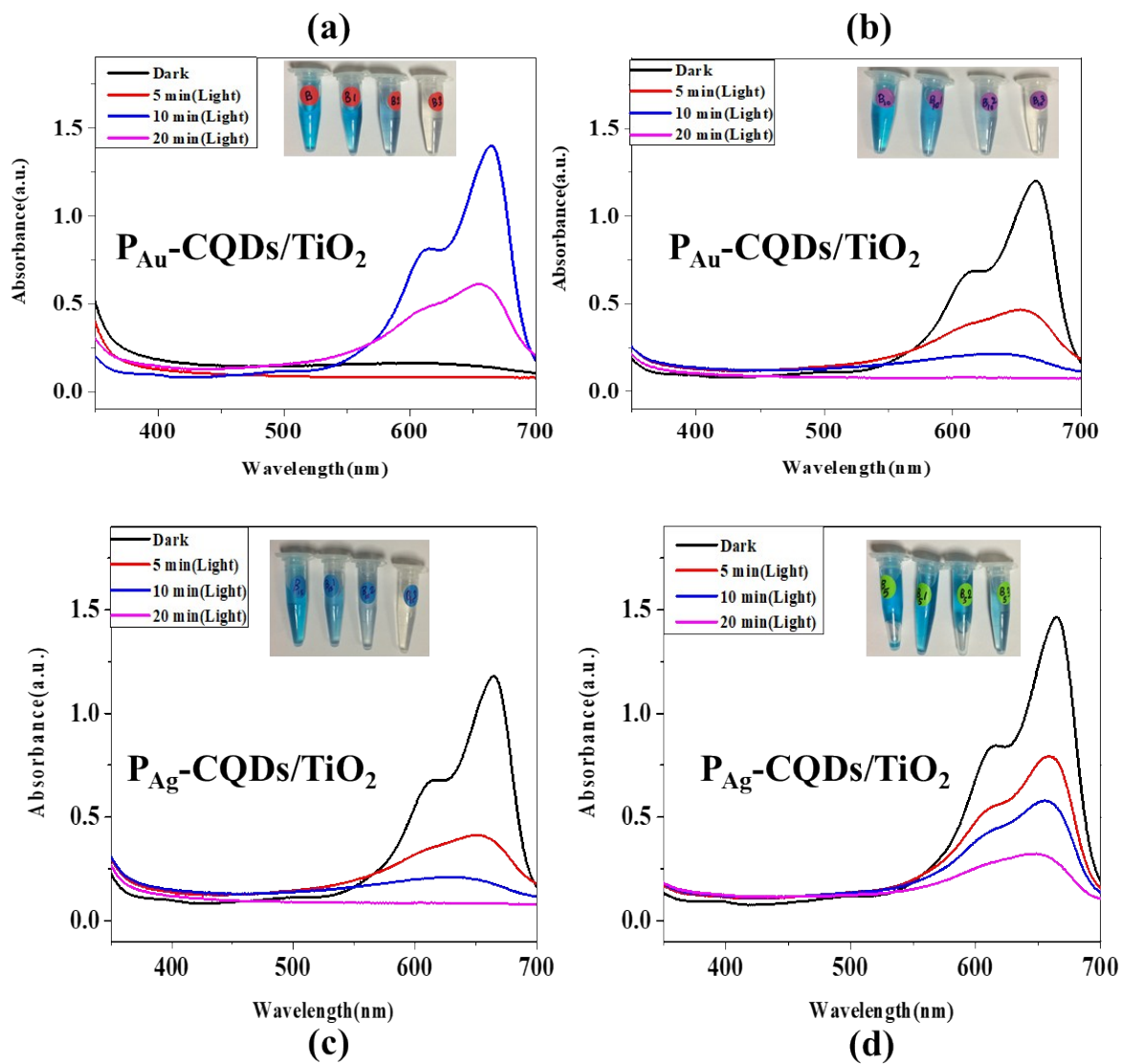
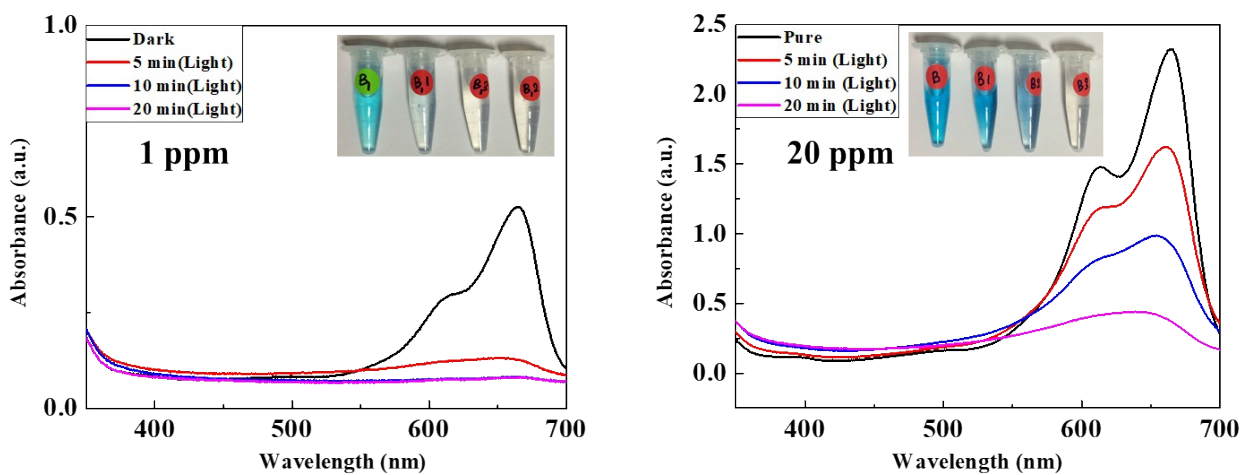


Figure S4: UV-Vis absorption spectra of MB dye (10 ppm) suspension in the presence of the different loading concentrations i.e. 1 mg/mL and 0.5 mg/mL, of the P_{Au} -CQDs/ TiO_2 and P_{Ag} -CQDs/ TiO_2 catalyst, respectively.

Figure S5: Effect of MB dye concentration, i.e. (a) 1 ppm, and (b) 20 ppm, on the optimized P_{Au} -CQDs/ TiO_2 photocatalyst concentration as a function of irradiation time.



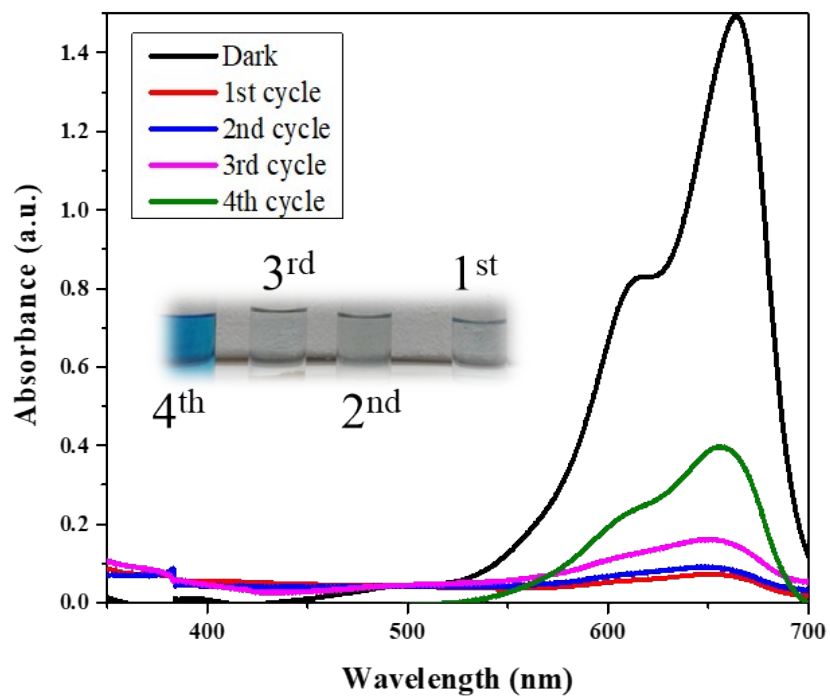


Figure S 6: Reusability of the P_{Au}-CQDs/TiO₂ photocatalyst.

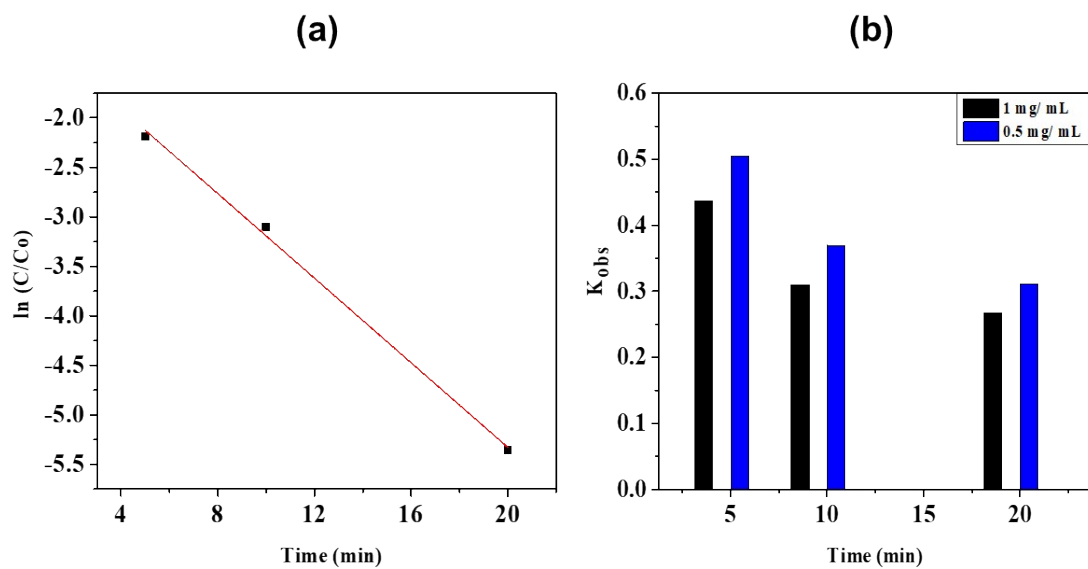


Figure S 7: Pseudo first-order kinetic model representing (a) kinetics and (b) effect of catalyst concentration on MB dye degradation.

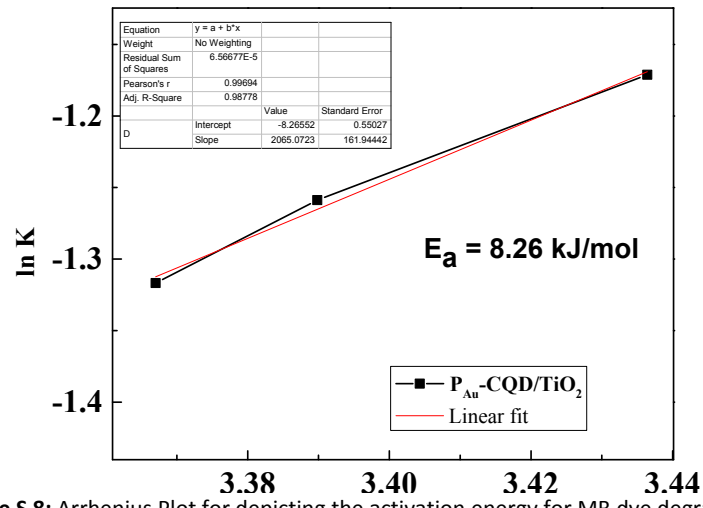


Figure S 8: Arrhenius Plot for depicting the activation energy for MB dye degradation

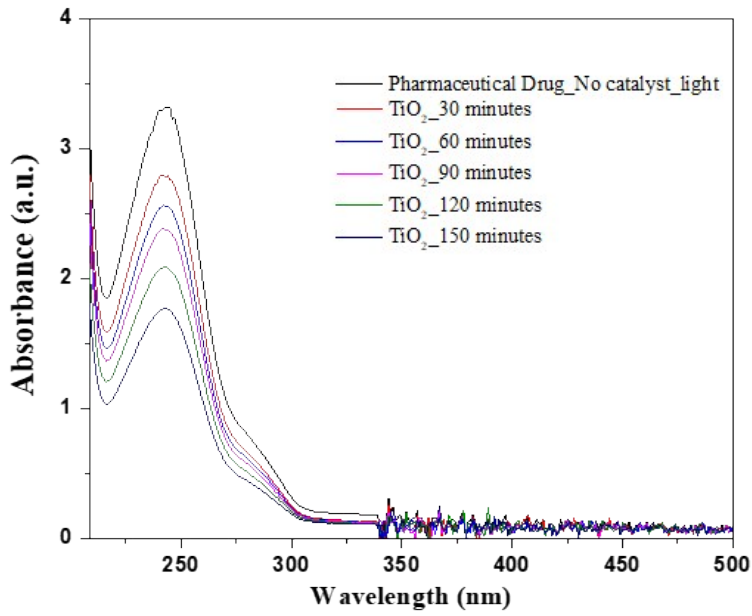


Figure S 9: TiO_2 nanofibers response as photocatalyst for pharmaceutical drug degradation

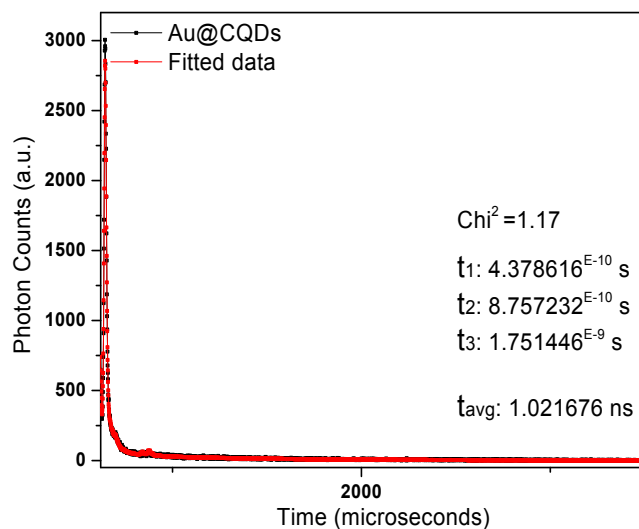


Figure S 10: Time-dependent photoluminescence spectra of P_{Au}@CQDs

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