

Supplementary Material

Enhanced Visible-Light-Assisted Photocatalytic Removal of Tetracycline Using Co/La@g-C₃N₄ Ternary Nanocomposite and Underlying Reaction Mechanisms

Kingsley Igenepo John, Touma B. Issa, Goen Ho, Aleksandar N. Nikoloski and Dan Li *

College of Science, Technology, Engineering & Mathematics, Murdoch University,
Murdoch, WA 6150, Australia

* Correspondence: l.li@murdoch.edu.au; Tel.: +61-08-9360-2569

Figures:

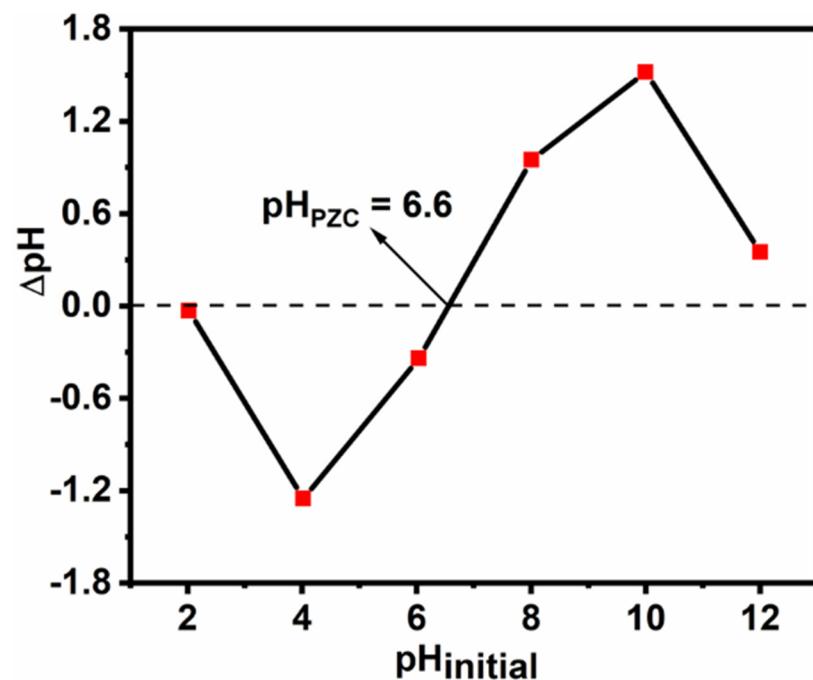


Figure S1. Point of zero charge (PZC) of Co/La@g-C₃N₄.

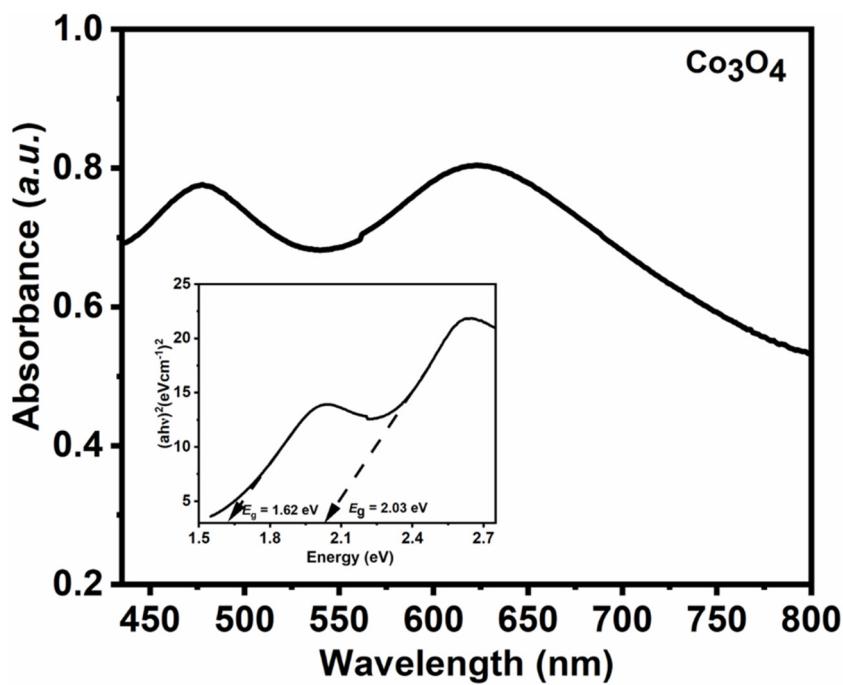


Figure S2. UV-Vis DRS and $(\alpha h\nu)^2$ vs. $h\nu$ plots (inset) of Co_3O_4 .

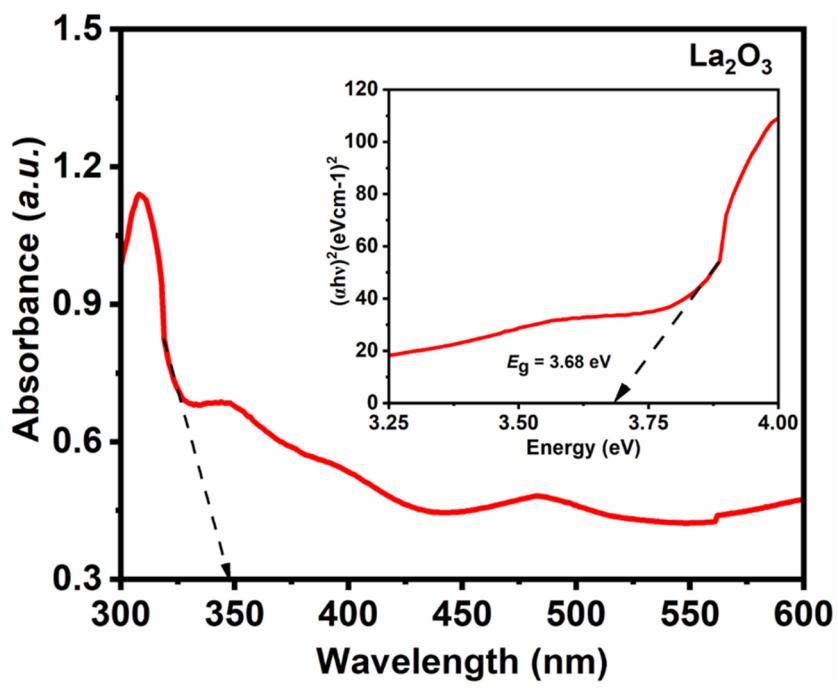


Figure S3. UV-Vis DRS and $(\alpha h\nu)^2$ vs. $h\nu$ plots (inset) of La_2O_3 .

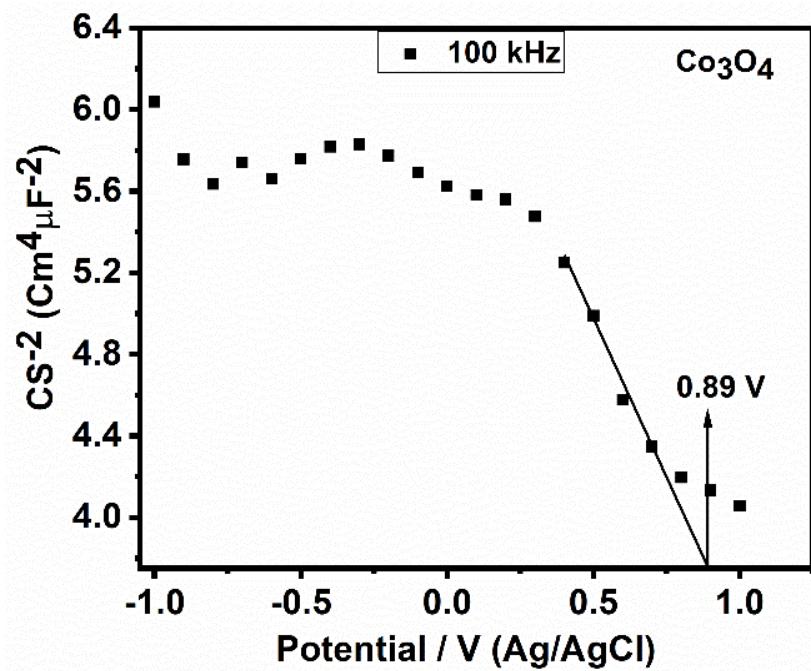


Figure S4. Mott-Schottky plot of Co_3O_4 .

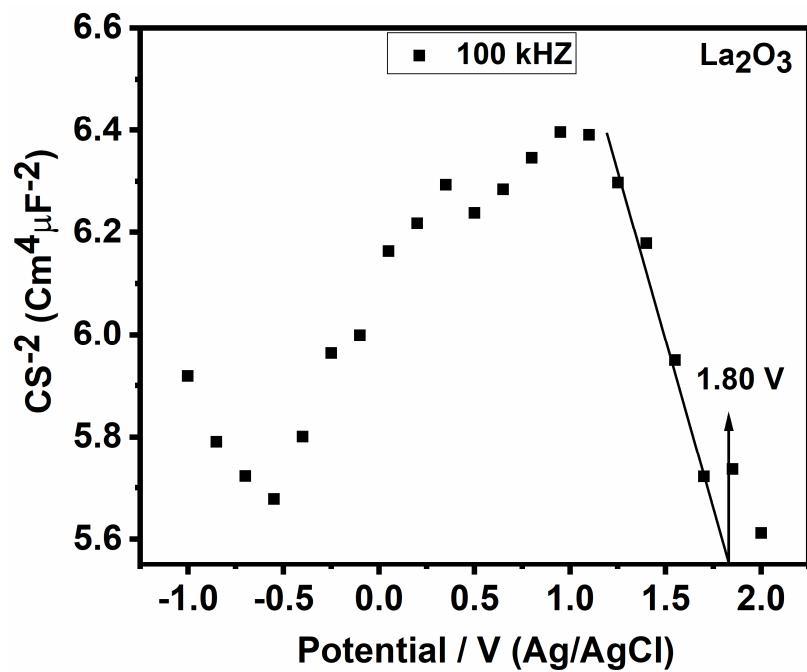


Figure S5. Mott-Schottky plot of La_2O_3 .

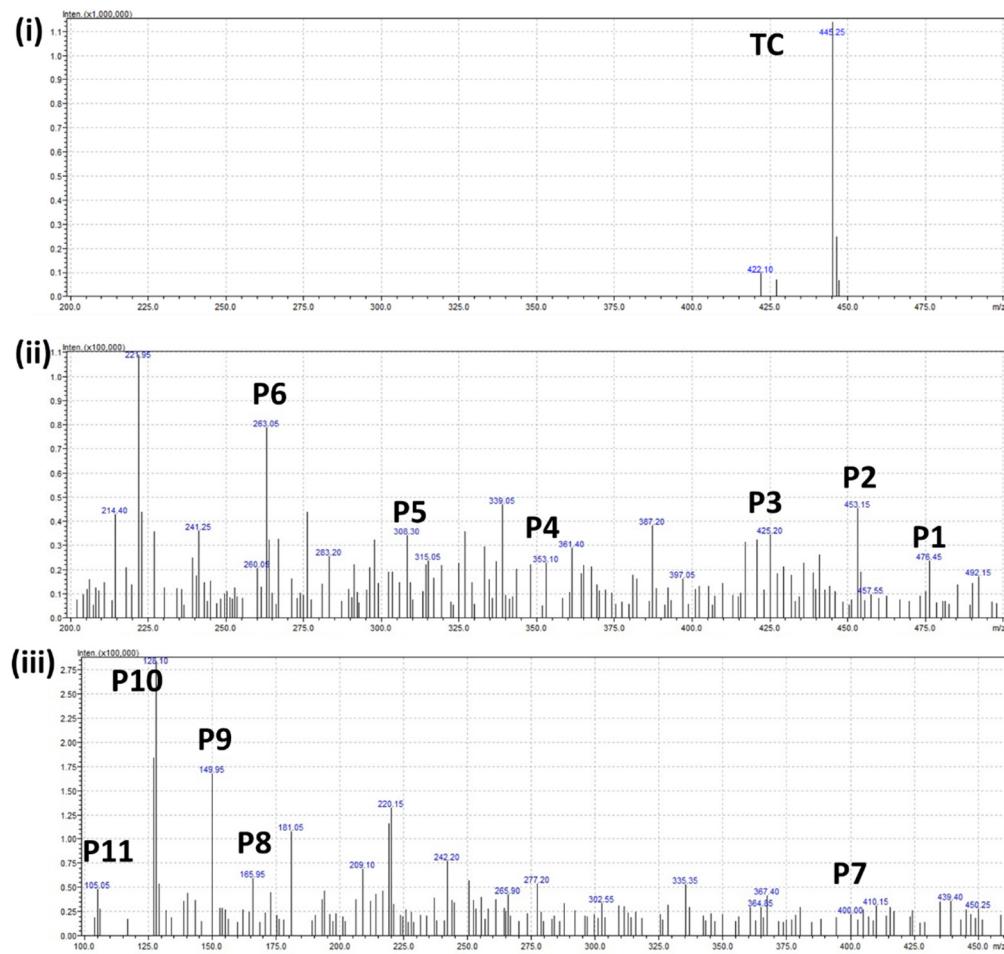


Figure S6. MS spectra for the intermediates of TC after photocatalytic treatment (i) 0 min, (ii) 20 min, and (iii) 60 min (reaction conditions: temperature = 25 °C; concentration of TC = 10 mg/L M; Co/La@g-C₃N₄ = 0.4 g L⁻¹; pH_{TC} = 5.05).

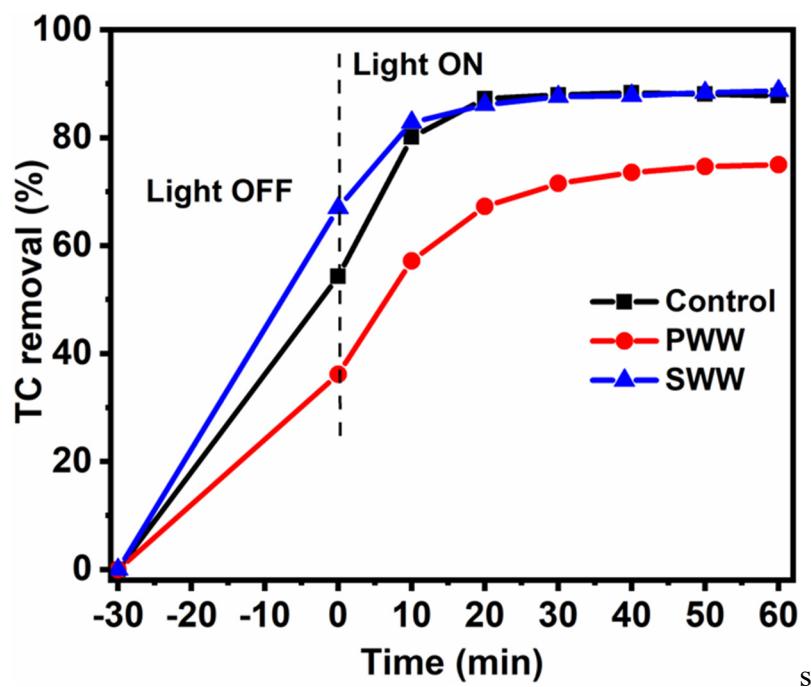


Figure S7. Removal of TC using Co/La@g-C₃N₄ in the primary effluent (PWW) and secondary effluent (SWW).

Tables:**Table S1.** Physical parameters of different water matrices: DW, RW, and TW.

Water matrix	pH	Turbidity (NTU)	Conductivity ($\mu\text{S}/\text{cm}$)	TOC (mg.C/L)	Salinity (PPT)
DW	4.53	0.61	4.6	< 0.5	0
RW	6.92	0.66	81.8	0.7	0
TW	8.10	1.64	247.0	0.9	0.1

TOC: total organic carbon; NTU: Nephelometric turbidity unit; DIW: deionized water; RW: rainwater; TW: tap water.