

Electronic supplementary information

Synthesis, characterization of carbon micro tube/tantalum oxide composites and their photocatalytic activity under visible irradiation

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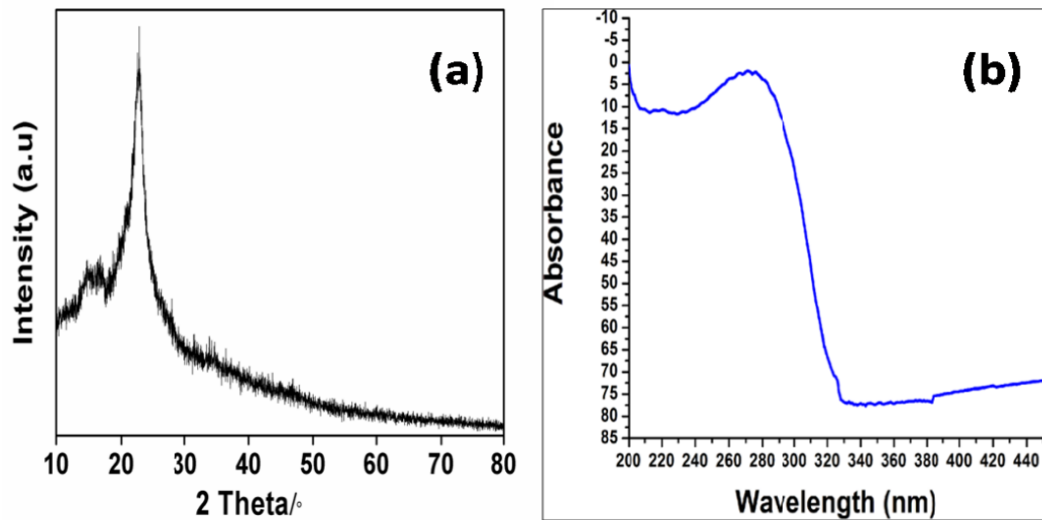


Fig. S1. (a) XRD of Cotton fiber and (b) DRS UV of Ta₂O₅

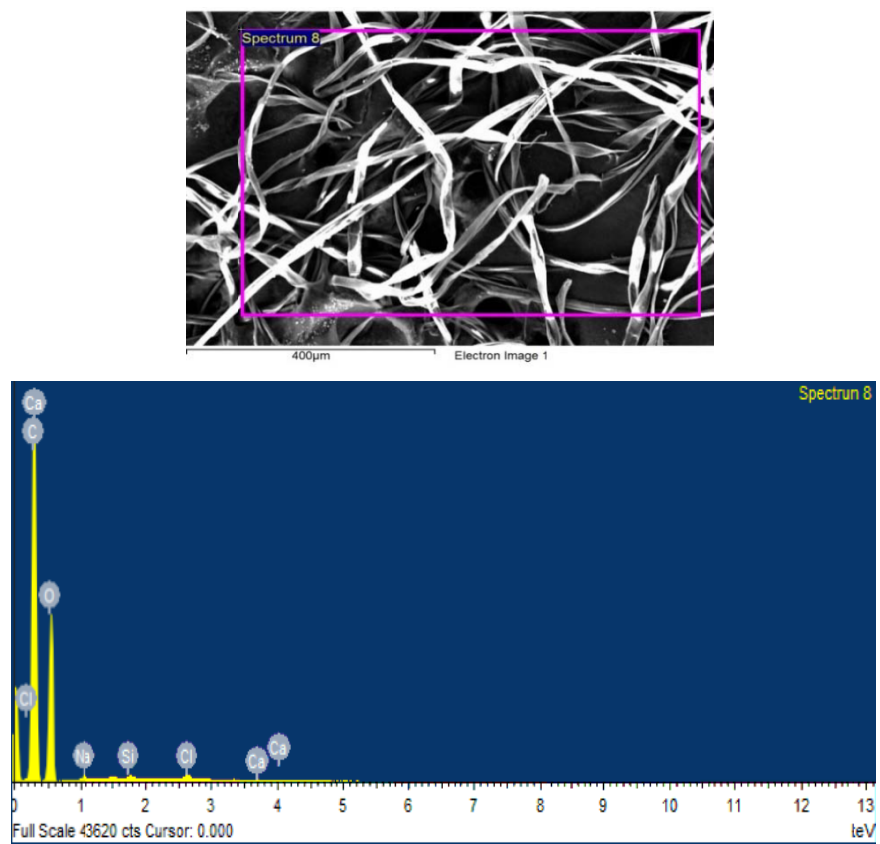


Fig.S2. Cotton fibers FESEM/EDAX spectrum

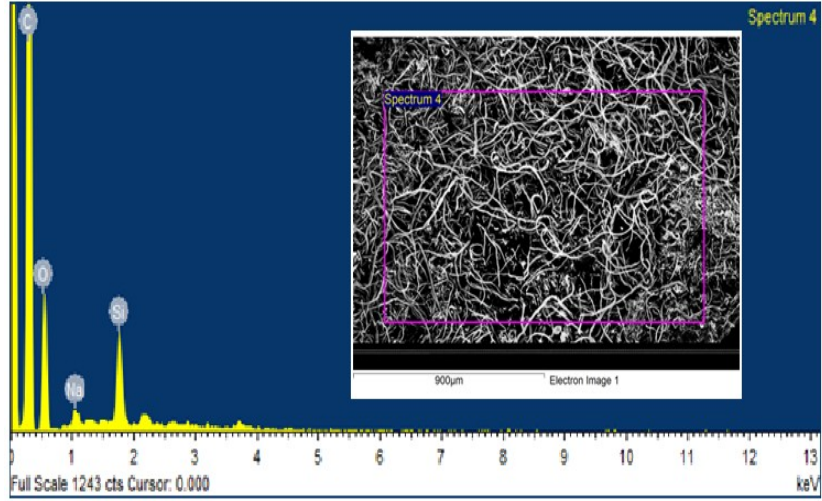


Fig.S3.FESEM/EDX spectrum of CMTs

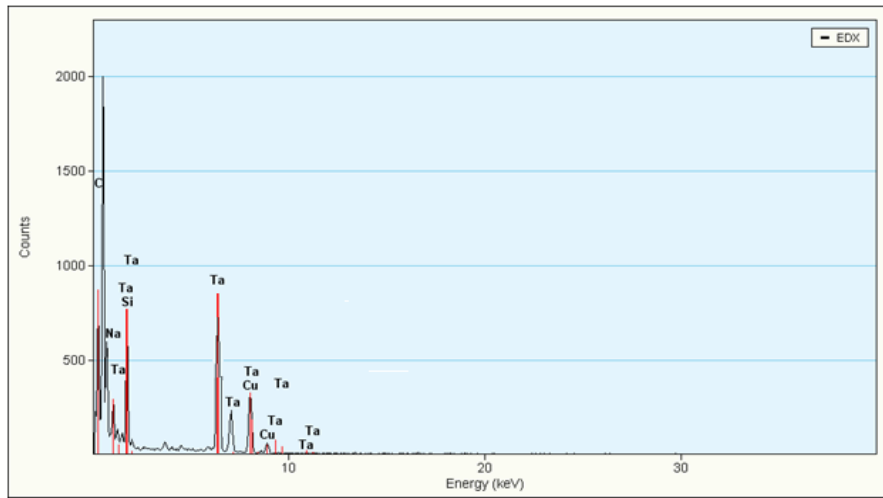


Fig.S4. TEM/EDX spectrum of CMT:Ta₂

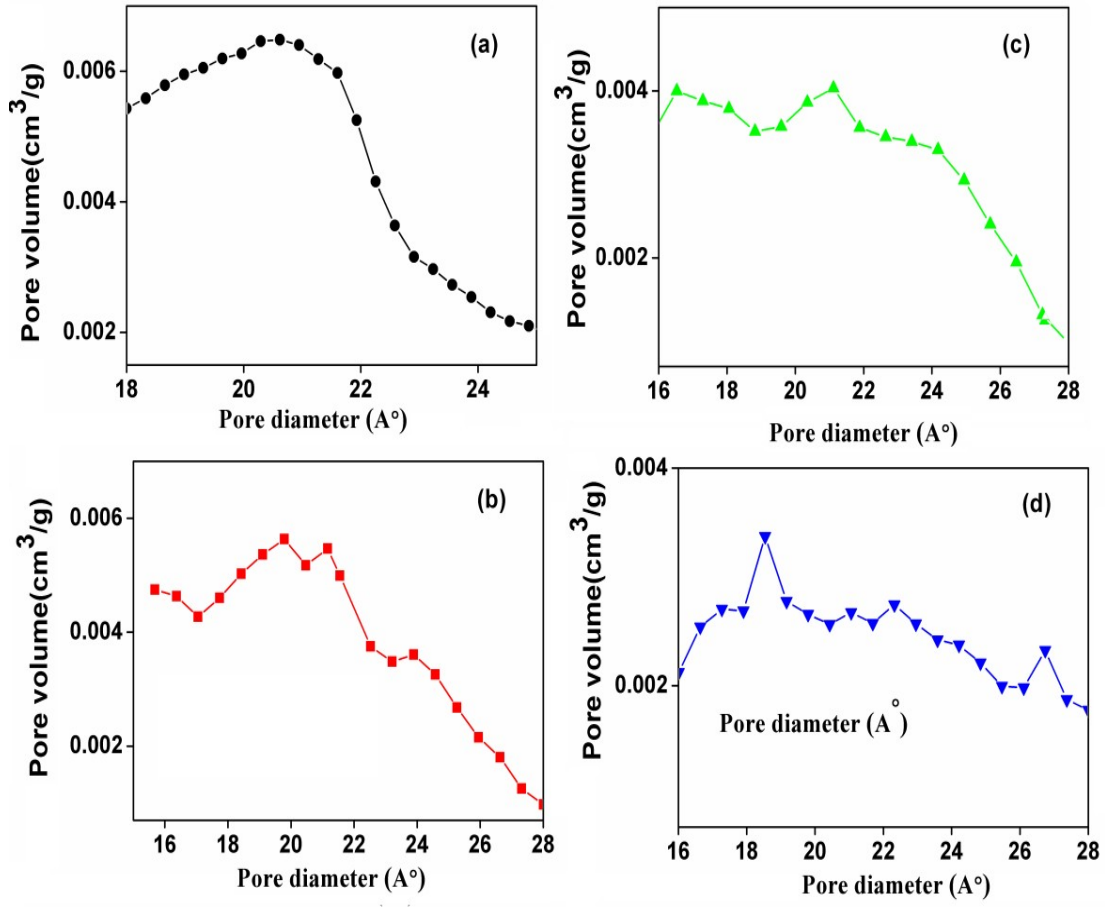


Fig. S5. B J H pore size distribution curves of the (a) CMT (b) CMT:Ta₁ (c) CMT:Ta₂ (d) CMT:Ta₃

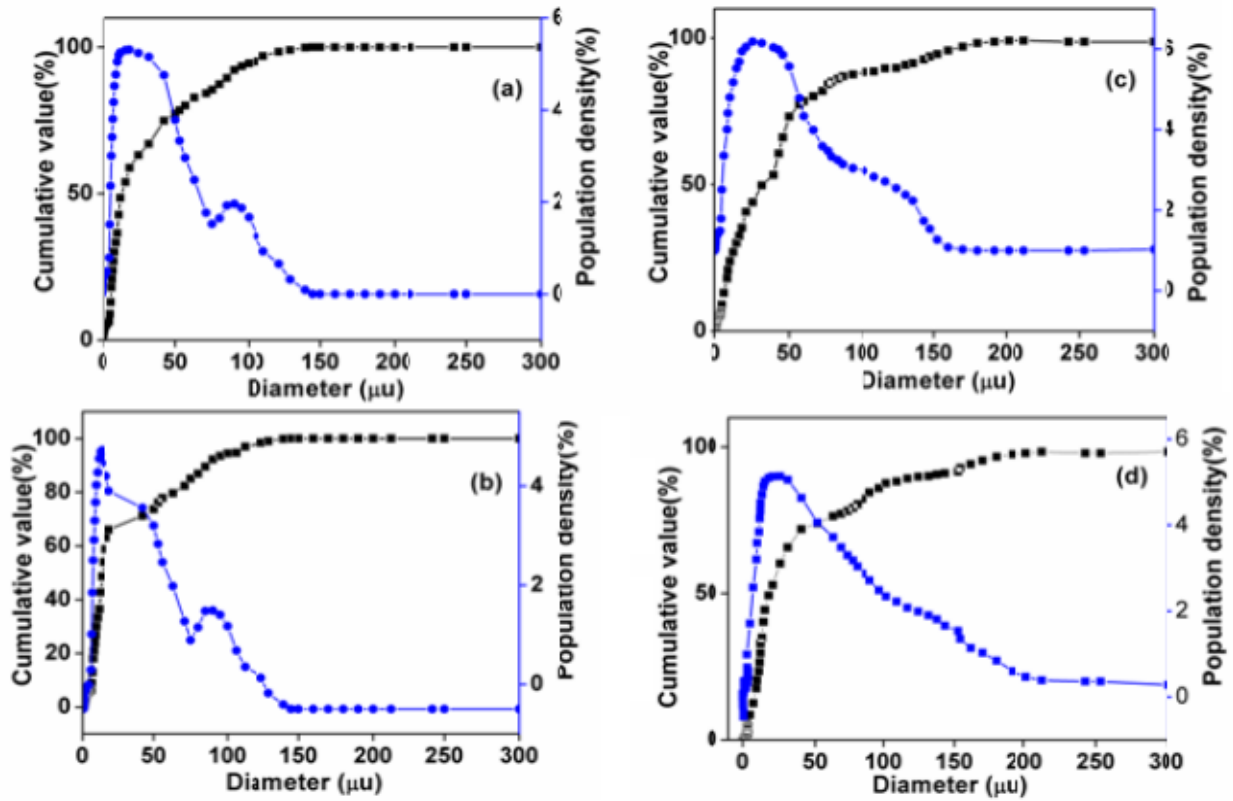


Fig S6: Particle size distribution of the (a) CMT (b) CMT:Ta₁ (c) CMT:Ta₂ (d) CMT:Ta₃ in ethanol medium (during the measurement sonification was applied)

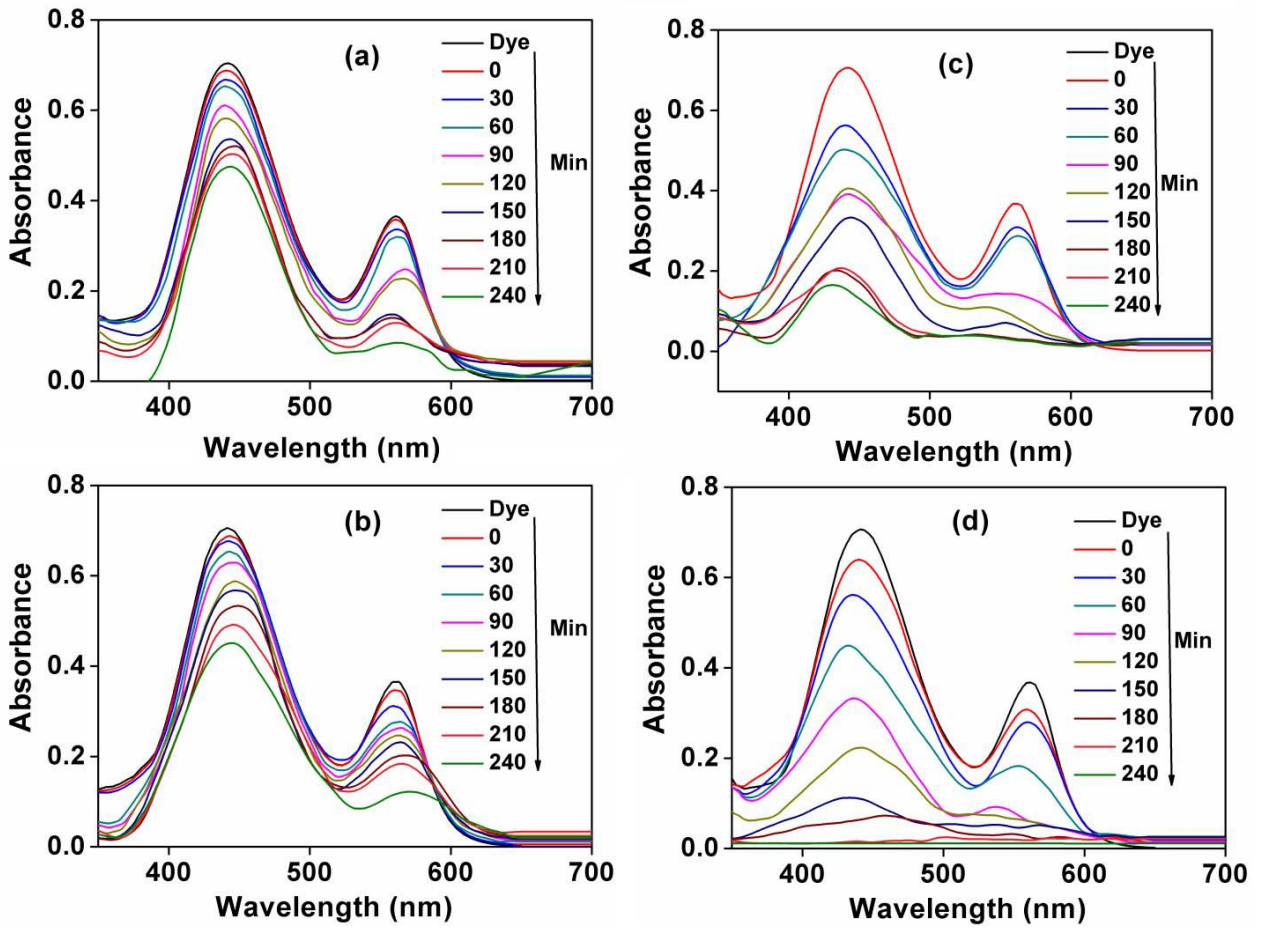


Fig S7: Absorption plots for the XO dye of the (a) CMT (b) CMT:Ta₁ (c) CMT:Ta₂ (d) CMT:Ta₃

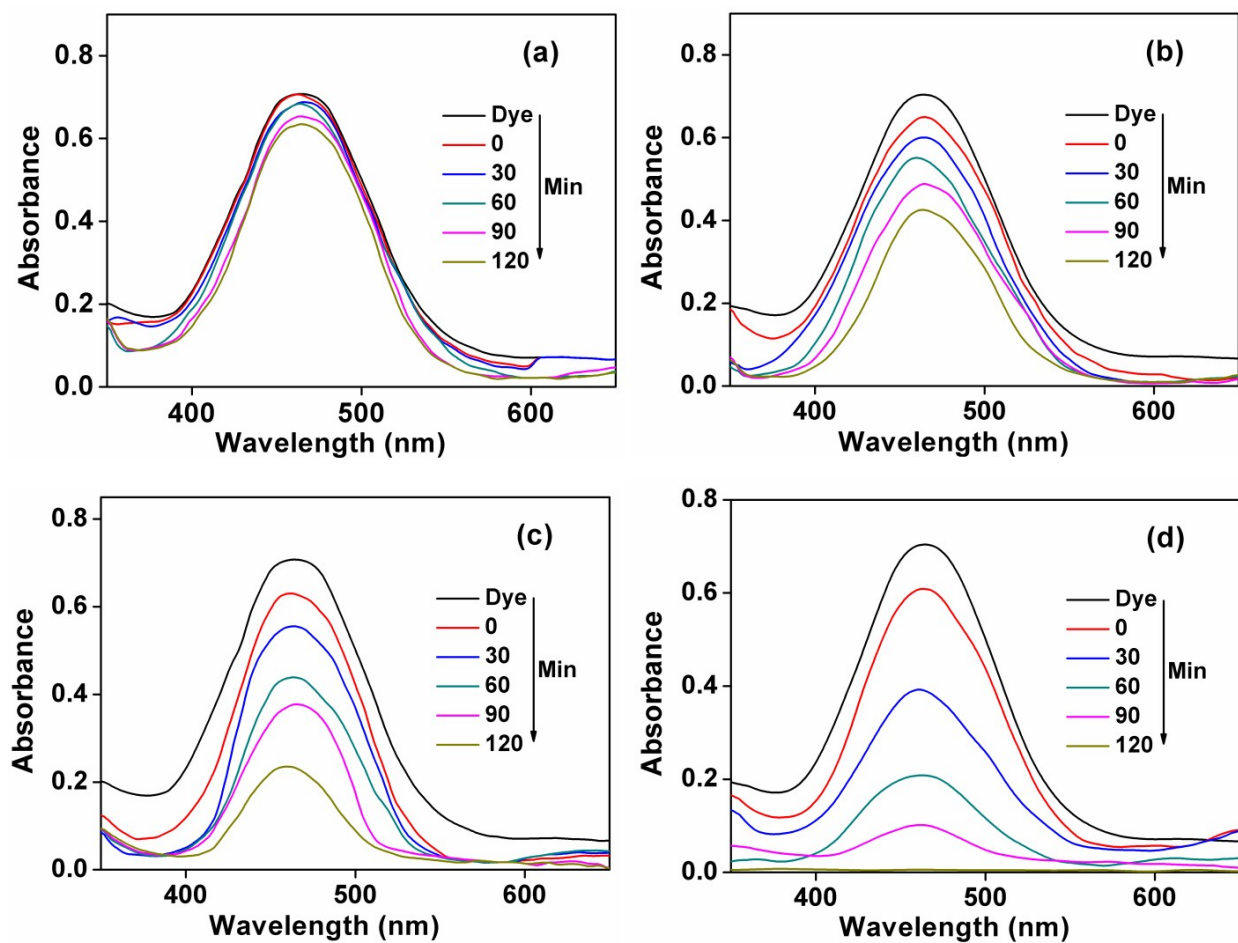


Fig S8: Absorption plots for the MO dye of the (a) CMT (b) CMT:Ta₁ (c) CMT:Ta₂ (d) CMT:Ta₃

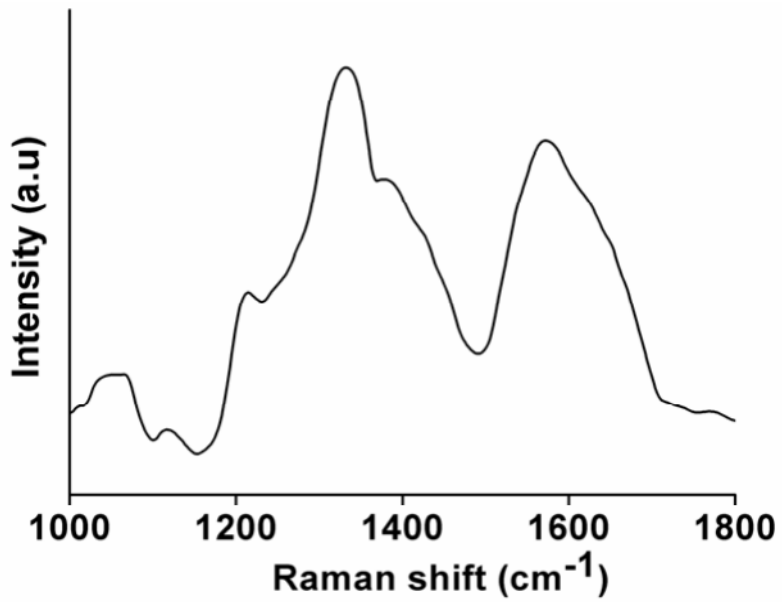


Fig S9: Raman spectrum of the ecovered catalysts of CMT:Ta₂ (Smoothed)

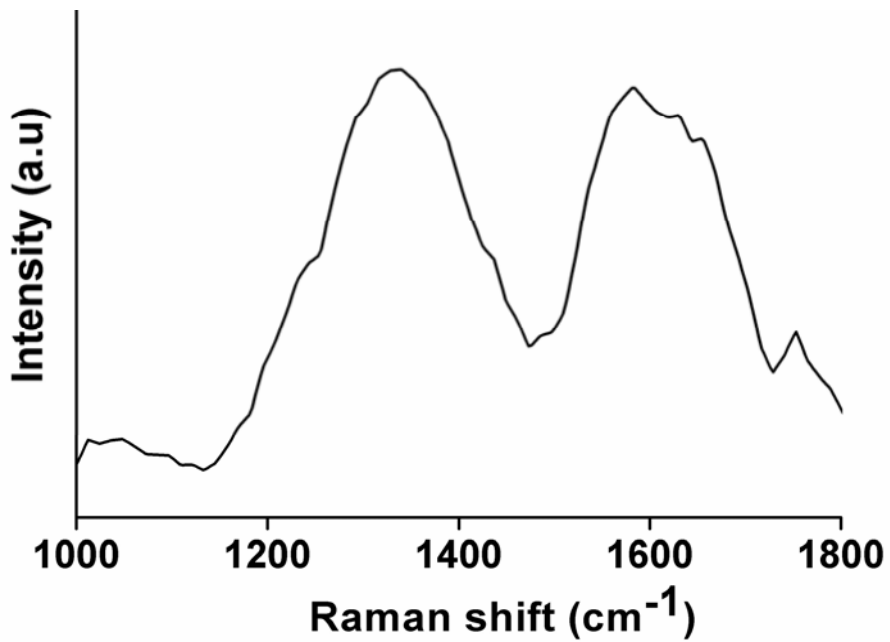


Fig S10: Raman spectrum of the recovered catalysts of CMT:Ta₃ (smoothed)

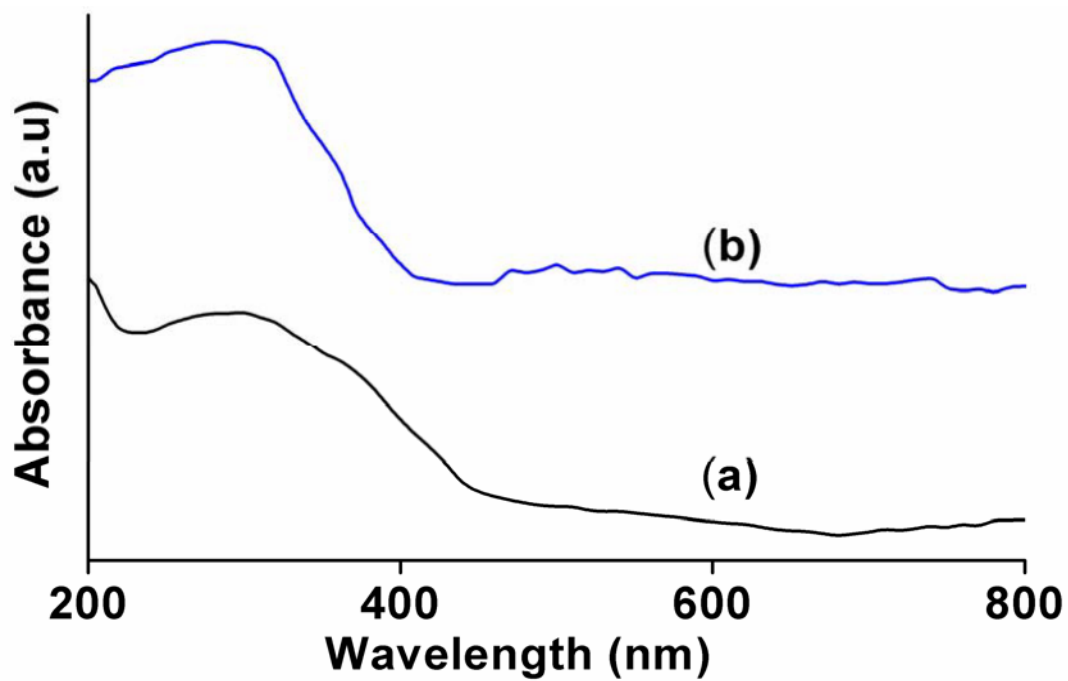


Fig.S11. DRSUV/Visible spectra of the recovered photocatalyst of CMT:Ta₂ and CMT:Ta₃

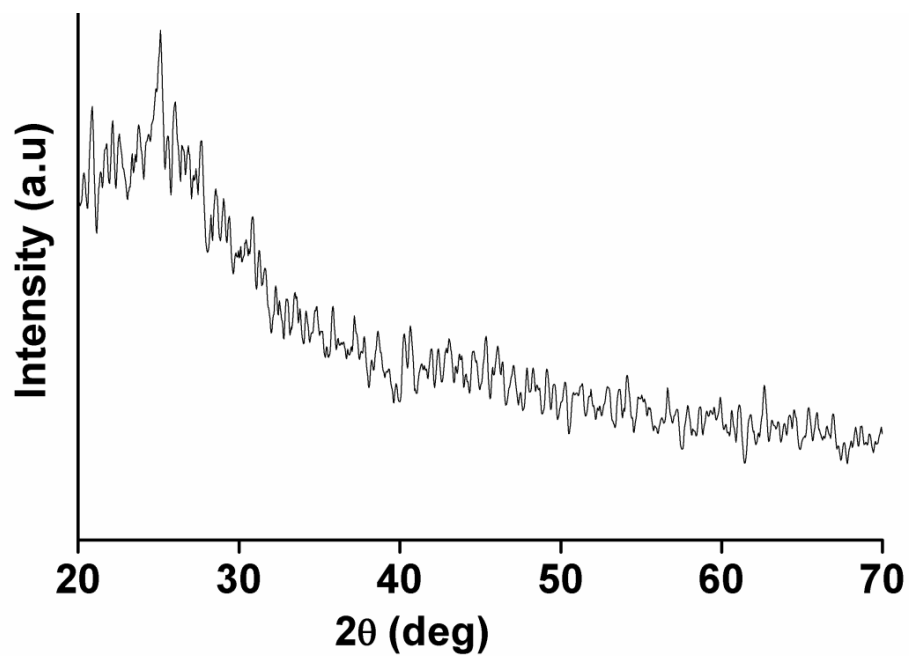


Fig.S12. Powder XRD patterns of the reused CMT:Ta₃ photocatalyst