

*Supplementary Materials*

Development of $\text{TiO}_2\text{--CaCO}_3$ Based Composites as an Affordable Building Material for the Photocatalytic Abatement of Hazardous NO_x from the Environment

This study aimed to develop environment-friendly construction materials for photocatalytic NO_x degradation in cement mortar mixed with 5%, 10%, 15% catalyst composite are shown in Fig.S1.

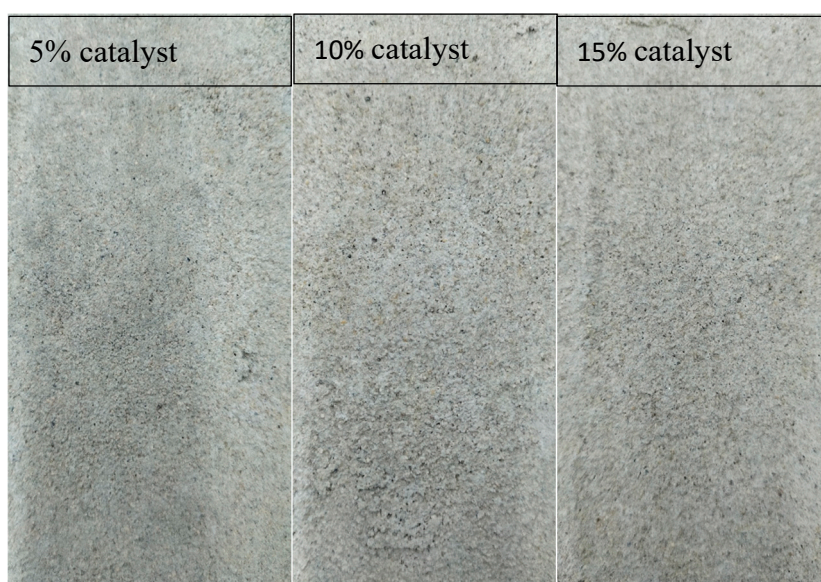
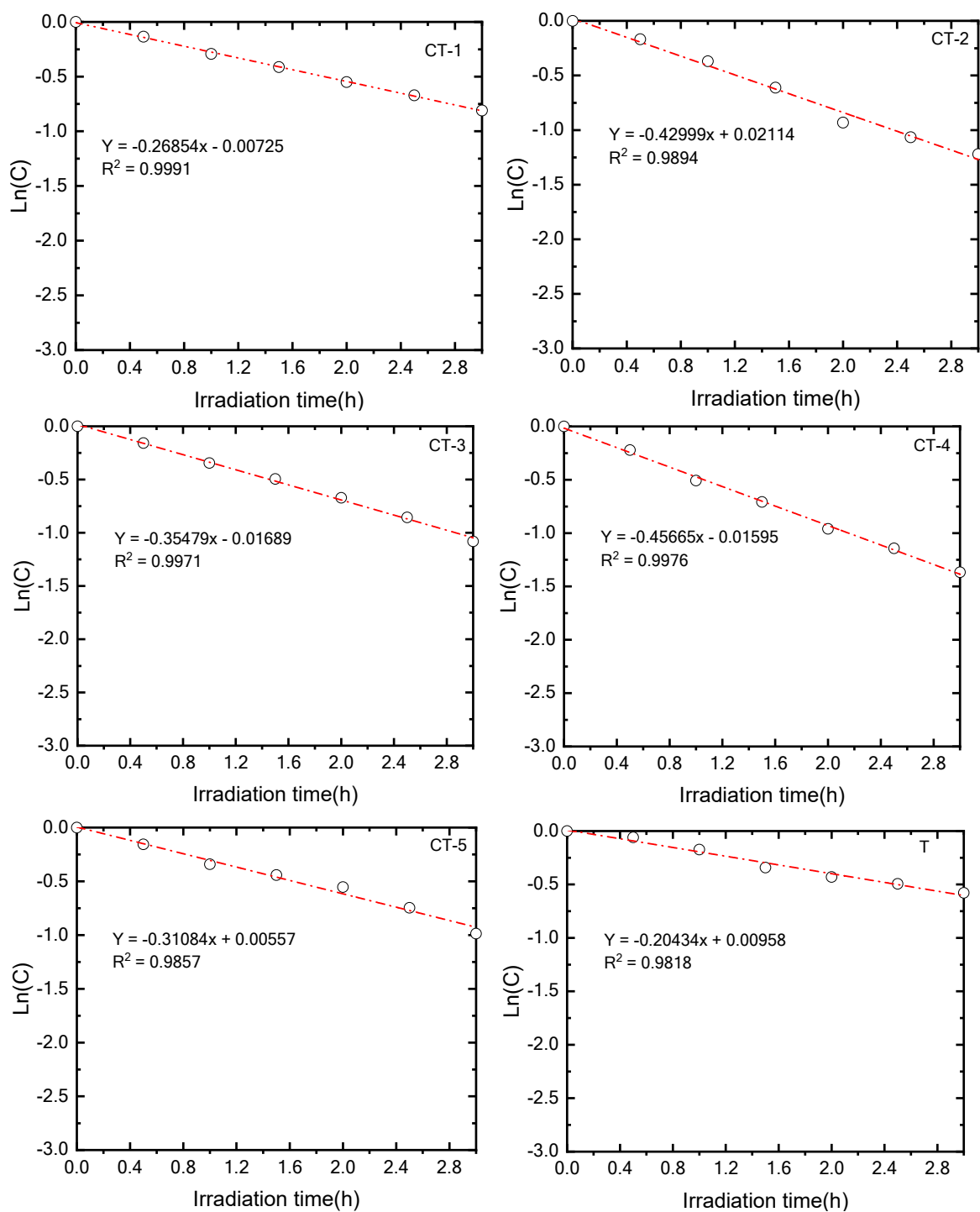


Figure.S1. Cement mortars mixed with 5%, 10%, 15% catalyst composite.

The degradation of MB dye under irradiation pseudo-first-order kinetics shown in Fig.S1.



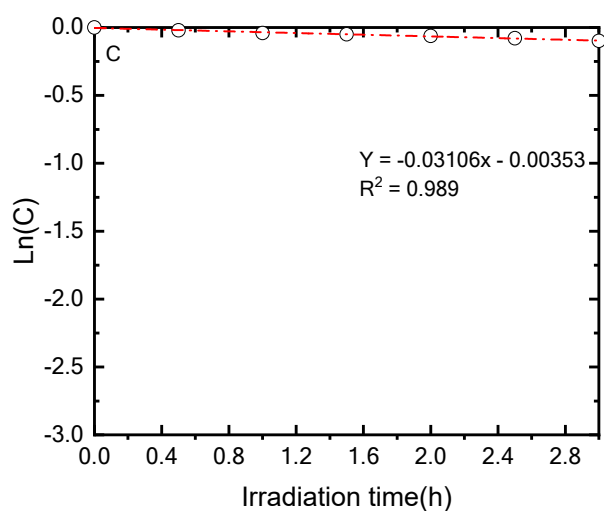


Figure.S2. Pseudo-first order kinetic profile for photocatalytic degradation of M.B relation between logarithm concentration of M.B (C) and time of T, C, CT-1, CT-2, CT-3, CT-4, CT-5 composites.

The silica sol binder with CT-4 catalyst painted on the surface of cement mortar and calcined at 200°C for 60 minutes as shown in Fig.S3.



Figure.S3. CT-4 composite catalyst painted on the surface of cement mortar.

The individual core level spectra for the elements in the T, C, CT-1, CT-2, CT-3, CT-4 and CT-5 composite mixture were depicted in Fig.S4.

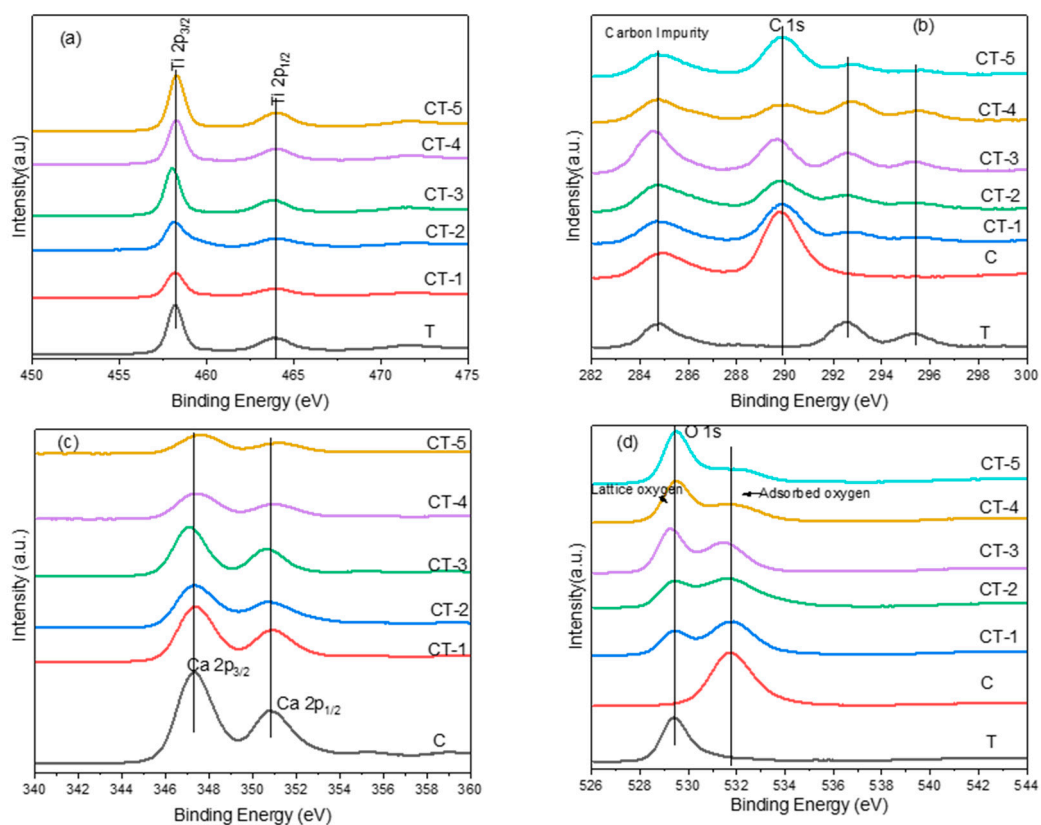


Figure.S4.XPS spectrum of (a) Ti_{2p}, (b) C 1s, (c) Ca_{2p}, (d) O 1s of T, C, CT-1, CT-2, CT-3, CT-4, CT-5 catalyst composites.