

## Supporting Information

### Synthesis of $\text{TiO}_2@-\alpha\text{-Fe}_2\text{O}_3$ core-shell heteronanostructures by thermal decomposition approach and their application towards sunlight driven photodegradation of Rhodamine B

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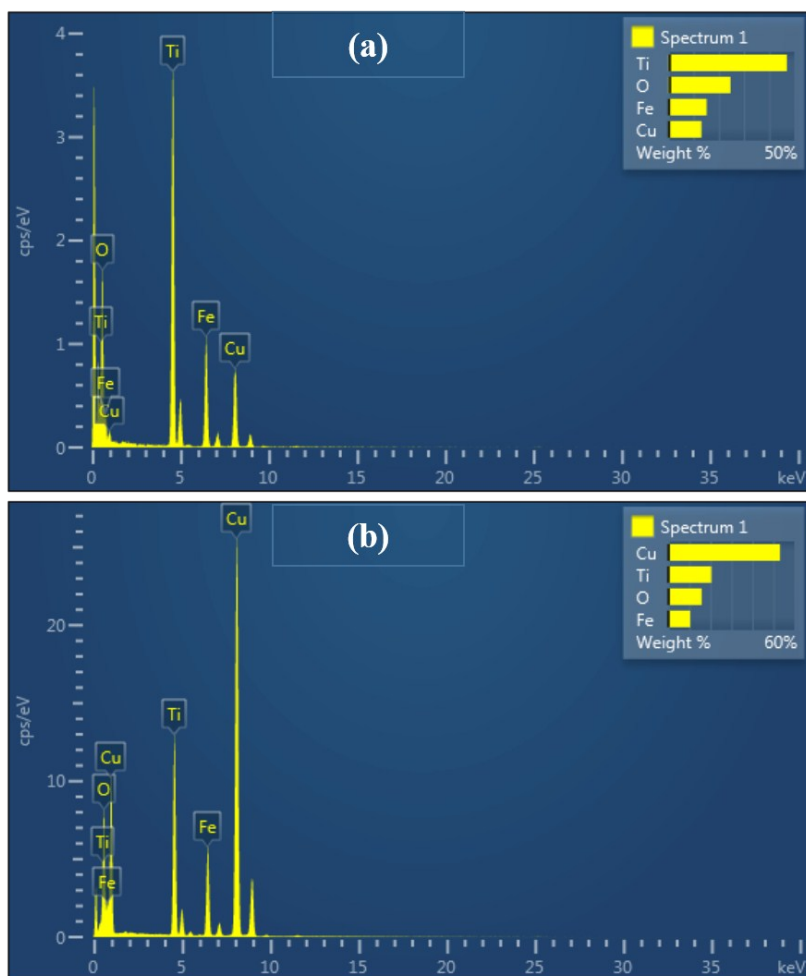


Figure S1: The EDS patterns of (a) CTFO-100 and (b) CTFO-150 observed during the TEM measurements

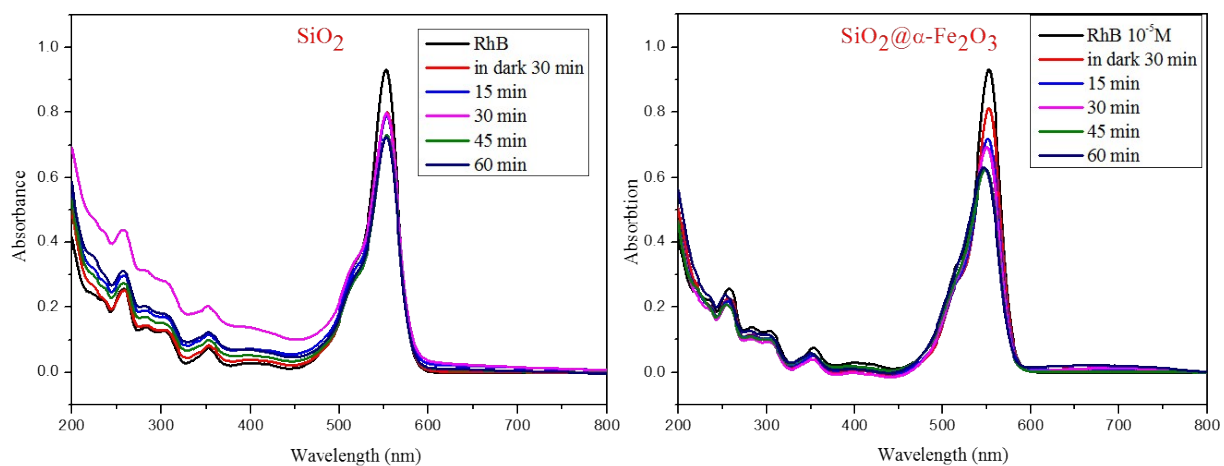


Figure S2: UV-visible spectral results on photodegradation of rhodamine B using pure  $\text{SiO}_2$  and  $\text{SiO}_2@-\alpha\text{-Fe}_2\text{O}_3$  as the catalysts.

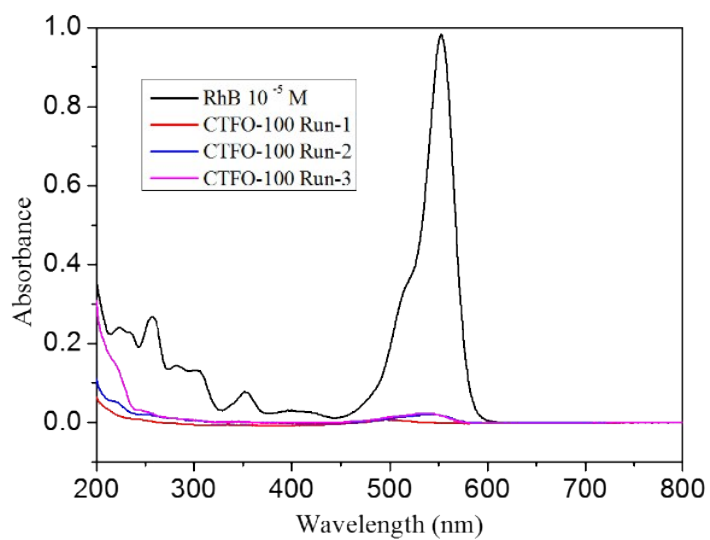


Figure S3: UV-visible spectral results on the photocatalytic degradation of RhB by CTFO-100 indicating its recyclability.