

Supplementary file:

# Tetracycline Removal through the Synergy of Catalysis and Photocatalysis by Novel NaYF<sub>4</sub>:Yb,Tm@TiO<sub>2</sub>-Acetylacetone Hybrid Core-Shell Structures

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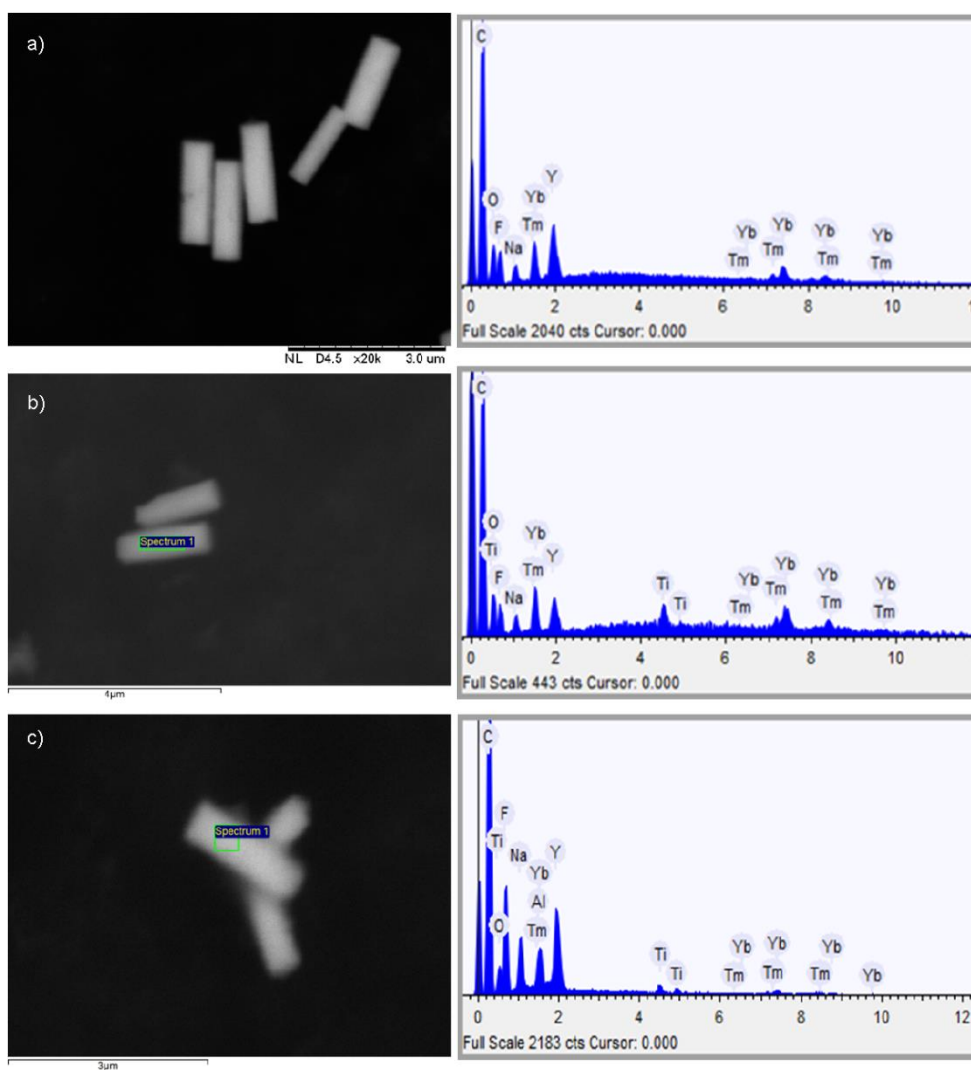


Figure S1. SEM/EDS of NaYF<sub>4</sub>:Yb,Tm (a) NaYF<sub>4</sub>:Yb,Tm@TiO<sub>2</sub>-Acac (b) and NaYF<sub>4</sub>:Yb,Tm@TiO<sub>2</sub>-Acac 300 core-shell particles (c).

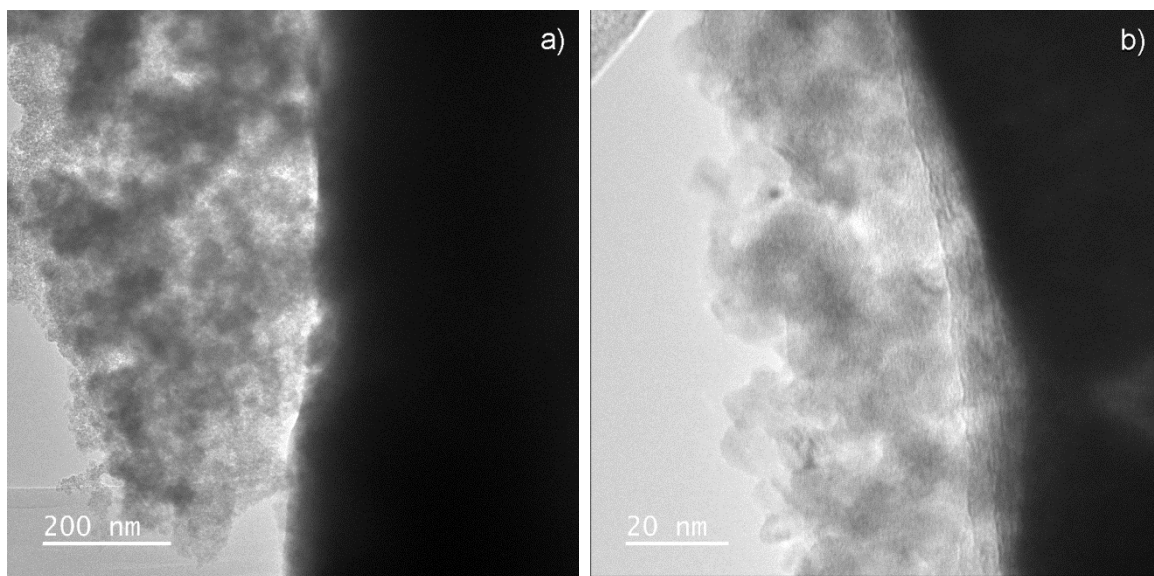


Figure S2. TEM of NaYF<sub>4</sub>:Yb,Tm@TiO<sub>2</sub>-Acac (a) and NaYF<sub>4</sub>:Yb,Tm@TiO<sub>2</sub>-Acac 300 core-shell particles (b).

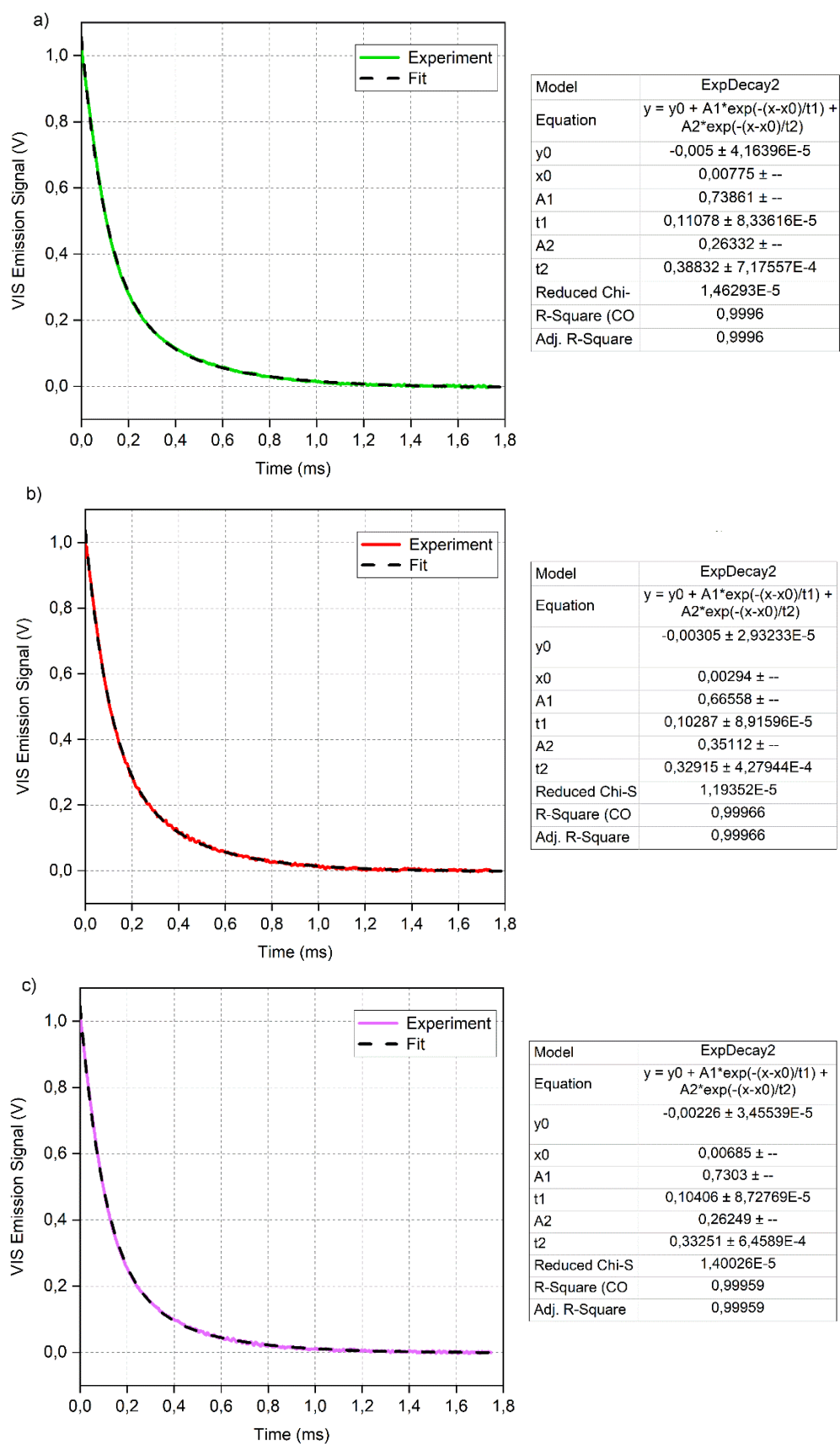


Figure S3. Decay curves of Vis emission for NaYF<sub>4</sub>:Yb,Tm particles (a), NaYF<sub>4</sub>Yb,Tm@TiO<sub>2</sub>-Acac (b) and NaYF<sub>4</sub>Yb,Tm@TiO<sub>2</sub>-Acac 300 core-shell structure (c).