

Supplementary file:

Tetracycline Removal through the Synergy of Catalysis and Photocatalysis by Novel NaYF₄:Yb,Tm@TiO₂-Acetylacetone Hybrid Core-Shell Structures

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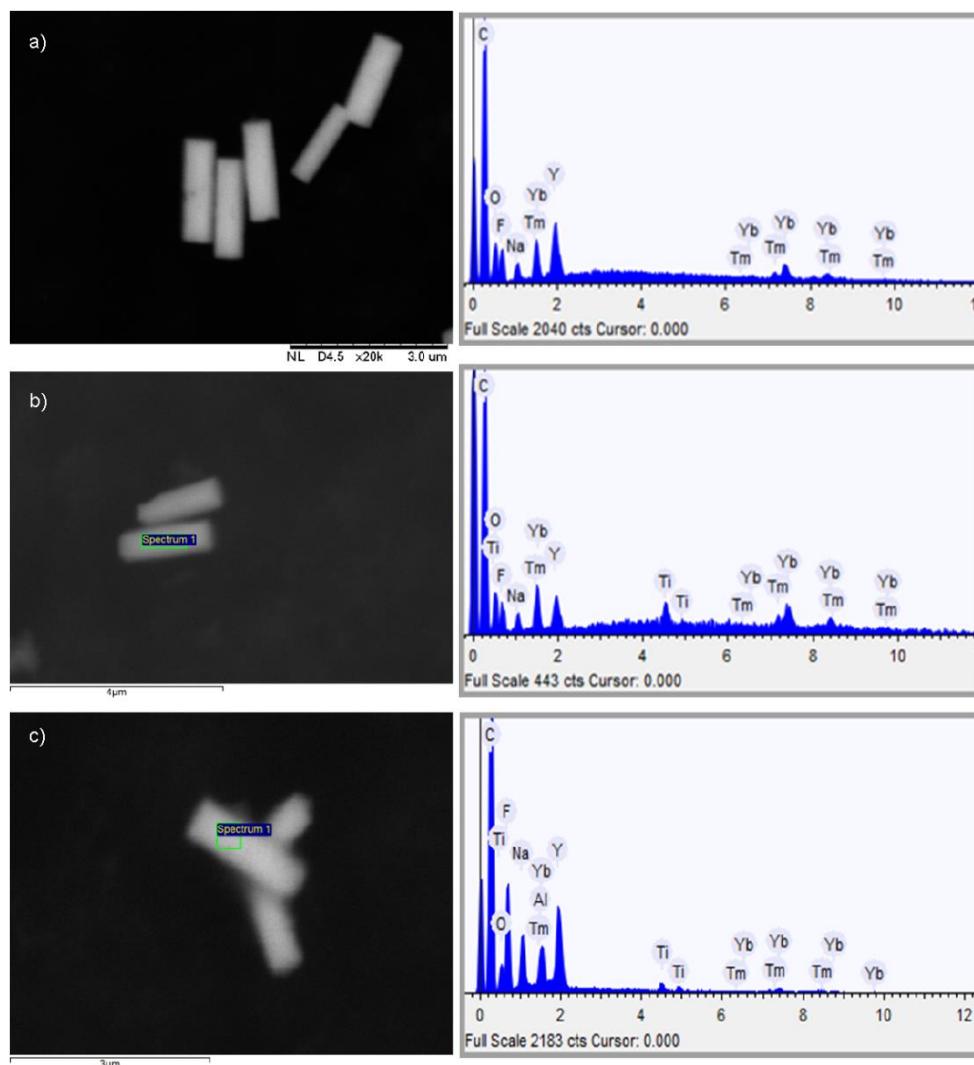


Figure S1. SEM/EDS of $\text{NaYF}_4:\text{Yb,Tm}$ (a) $\text{NaYF}_4:\text{Yb,Tm}@\text{TiO}_2\text{-Acac}$ (b) and $\text{NaYF}_4:\text{Yb,Tm}@\text{TiO}_2\text{-Acac}$ 300 core-shell particles (c).

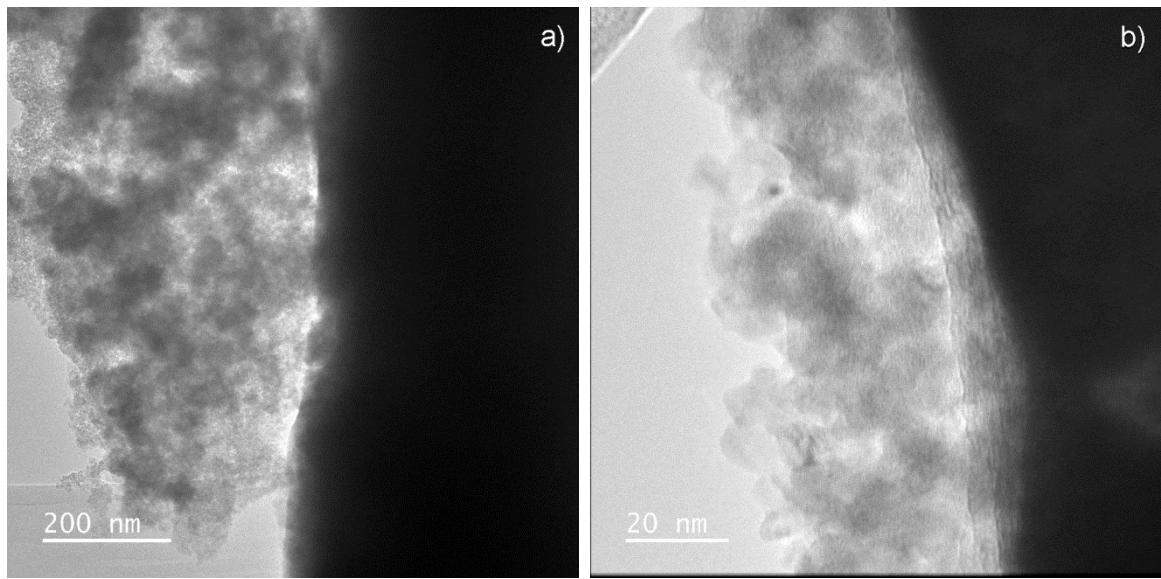
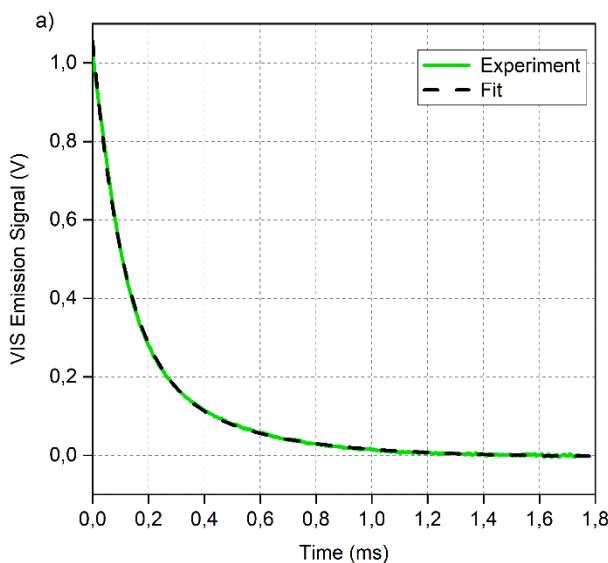
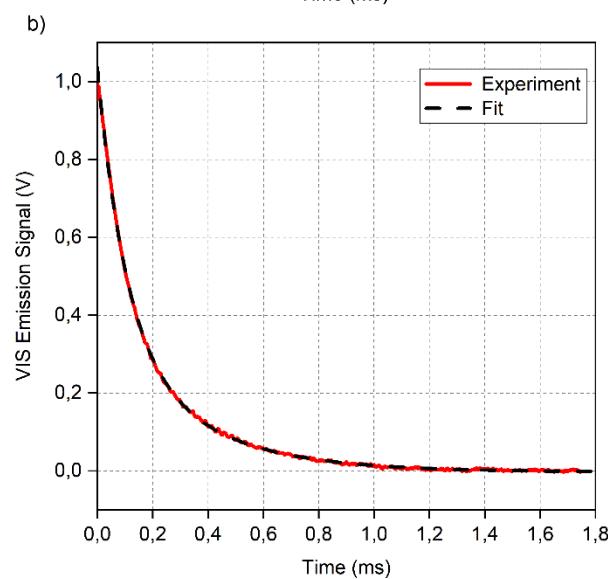


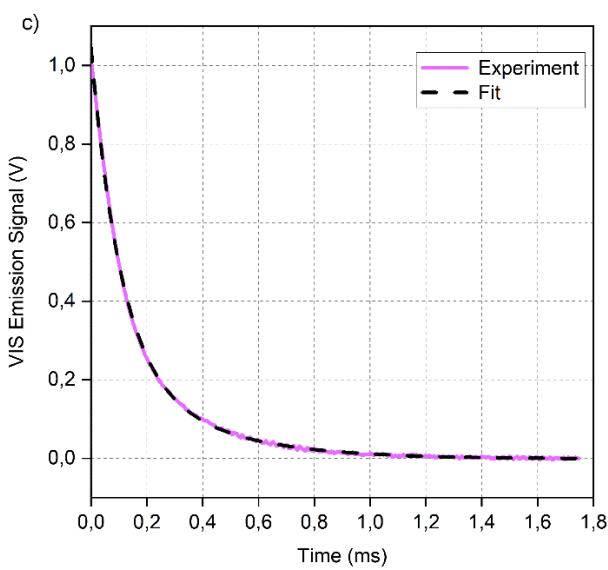
Figure S2. TEM of $\text{NaYF}_4:\text{Yb,Tm}@\text{TiO}_2\text{-Acac}$ (a) and $\text{NaYF}_4:\text{Yb,Tm}@\text{TiO}_2\text{-Acac}$ 300 core-shell particles (b).



Model	ExpDecay2
Equation	$y = y0 + A1*\exp(-(x-x0)/t1) + A2*\exp(-(x-x0)/t2)$
y0	-0,005 ± 4,16396E-5
x0	0,00775 ± --
A1	0,73861 ± --
t1	0,11078 ± 8,33616E-5
A2	0,26332 ± --
t2	0,38832 ± 7,17557E-4
Reduced Chi-S	1,46293E-5
R-Square (CO)	0,9996
Adj. R-Square	0,9996



Model	ExpDecay2
Equation	$y = y0 + A1*\exp(-(x-x0)/t1) + A2*\exp(-(x-x0)/t2)$
y0	-0,00305 ± 2,93233E-5
x0	0,00294 ± --
A1	0,66558 ± --
t1	0,10287 ± 8,91596E-5
A2	0,35112 ± --
t2	0,32915 ± 4,27944E-4
Reduced Chi-S	1,19352E-5
R-Square (CO)	0,99966
Adj. R-Square	0,99966



Model	ExpDecay2
Equation	$y = y0 + A1*\exp(-(x-x0)/t1) + A2*\exp(-(x-x0)/t2)$
y0	-0,00226 ± 3,45539E-5
x0	0,00685 ± --
A1	0,7303 ± --
t1	0,10406 ± 8,72769E-5
A2	0,26249 ± --
t2	0,33251 ± 6,4589E-4
Reduced Chi-S	1,40026E-5
R-Square (CO)	0,99959
Adj. R-Square	0,99959

Figure S3. Decay curves of Vis emission for $\text{NaYF}_4:\text{Yb,Tm}$ particles (a), $\text{NaYF}_4\text{Yb,Tm@TiO}_2\text{-Acac}$ (b) and $\text{NaYF}_4\text{Yb,Tm@TiO}_2\text{-Acac 300}$ core-shell structure (c).