

Supporting Information

Electrospun Tungsten Trioxide Nanofibers Decorated with Palladium Oxide Nanoparticles Exhibiting Enhanced Photocatalytic Activity

Hoik Lee,[†] Myungwoong Kim,[‡] Daewon Sohn,^{||} Seong Hun Kim,[§] Seong-Geun Oh,[|] Seung Soon Im,^{⊥,} and Ick Soo Kim^{†,*}*

[†]Nano Fusion Technology Research Group, Division of Frontier Fibers, Institute for Fiber Engineering (IFES), Interdisciplinary Cluster for Cutting Edge Research (ICCER), Shinshu University, Tokida 3-15-1, Ueda, Nagano, 386-8567, Japan.

[‡]Department of Chemistry, Inha University, Incheon 22212, Korea.

^{||} Department of Chemistry, Hanyang University, Seoul 133-791, Korea.

[§]Department of Organic and Nano Engineering, Hanyang University, Seoul 133-791, Korea.

[|]Department of Chemical Engineering, Hanyang University, Seoul 133-791, Korea.

[⊥]Department of Organic and Nano Engineering, College of Engineering, Hanyang University, Seoul 133-791, Korea.

*Corresponding authors: Ick Soo Kim (kim@shinshu-u.ac.jp), Seung Soon Im (imss007@hanyang.ac.kr)

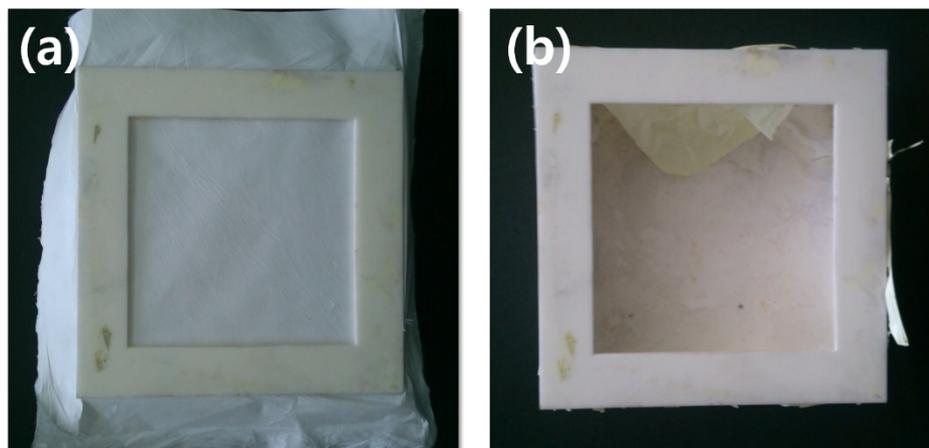


Figure S1. Digital photograph of (a) fabricated AMT/PVA NFs and (b) WO₃ NFs after calcination process.

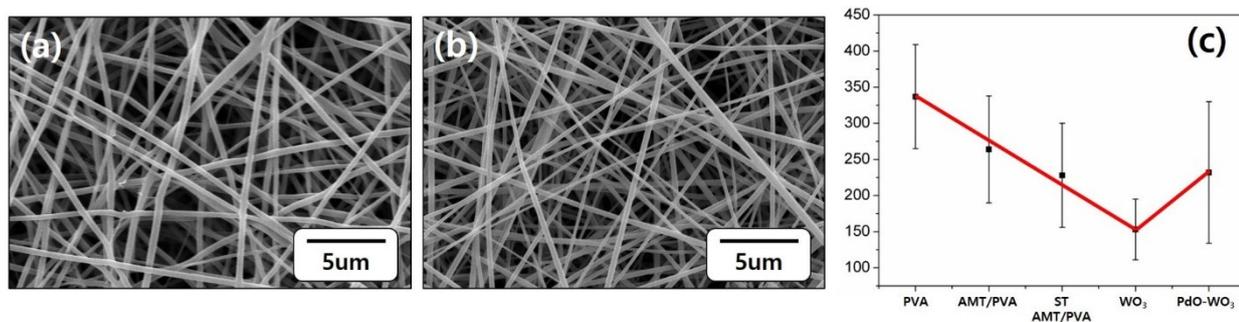


Figure S2. SEM images of (a) PVA and (b) AMT/PVA NFs with low magnification, and (c) the plot of average diameter at different fabrication steps. Red line is the guide to the eye.

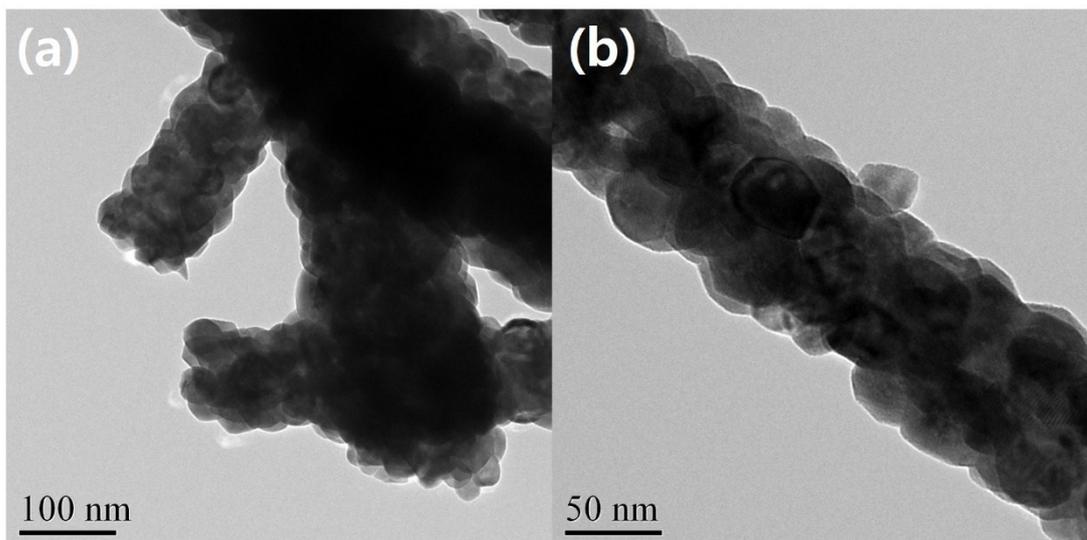


Figure S3. TEM image of WO₃ nanofibers with different magnifications.

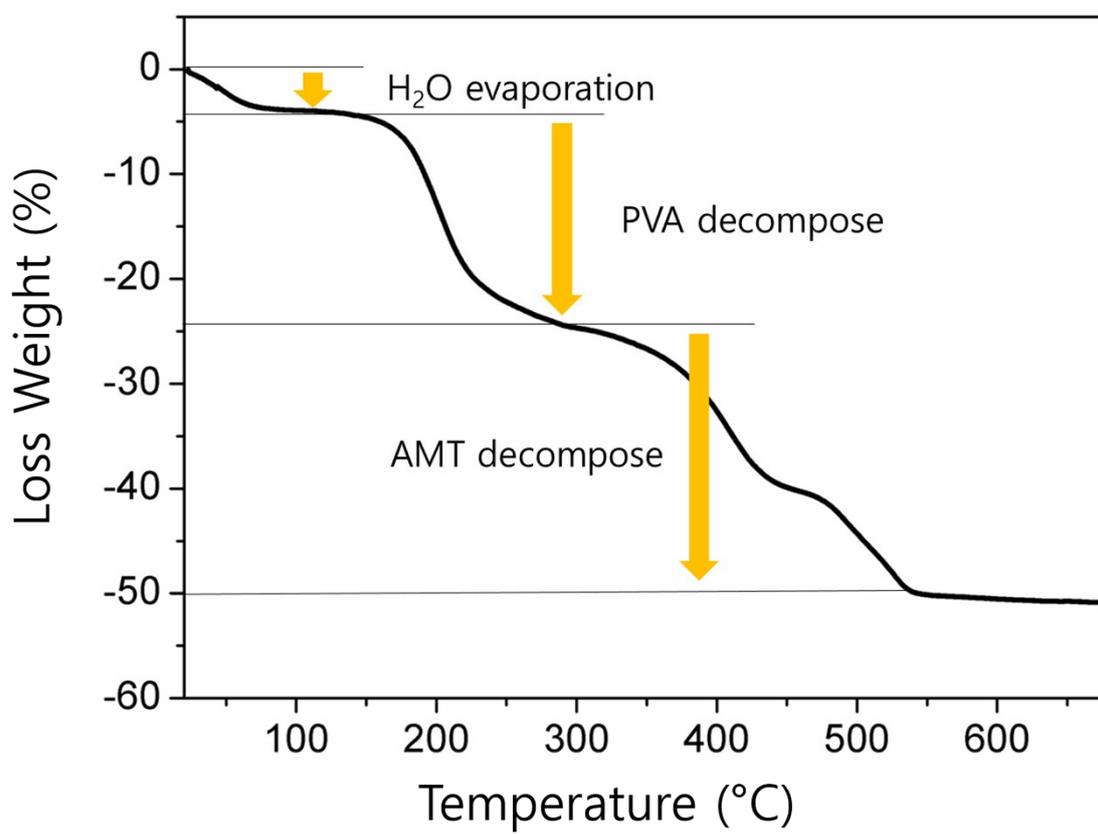


Figure S4. TGA curve of AMT/PVA NFs.

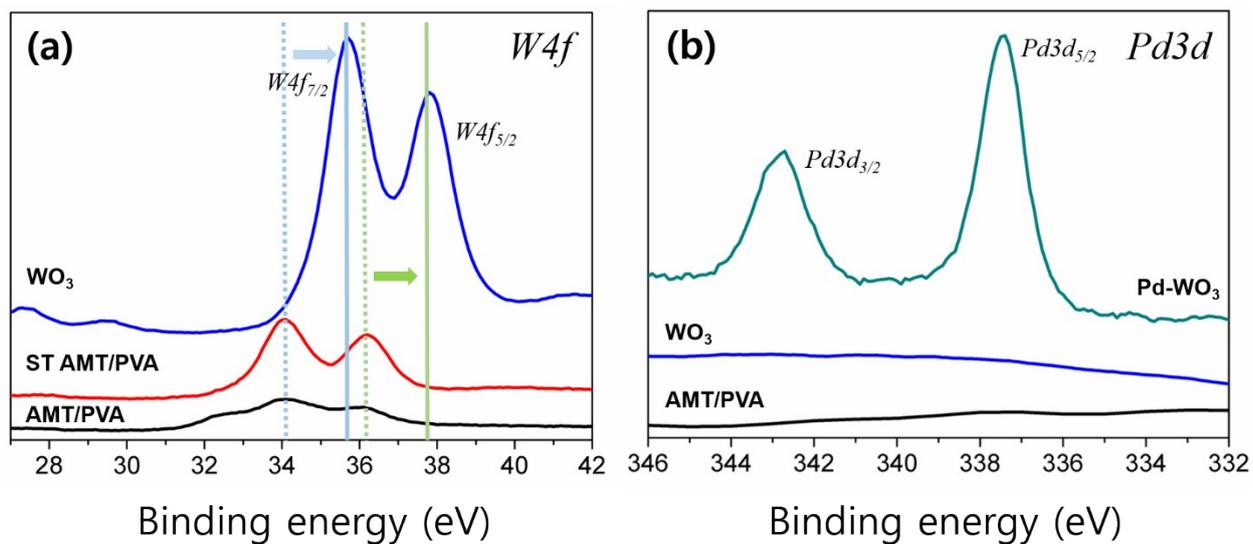


Figure S5. XPS spectra of (a) W(4f) multiplex spectra and (b) Pd(3d) multiplex spectra of AMT/PVA, ST AMT/PVA, and WO_3 NFs.

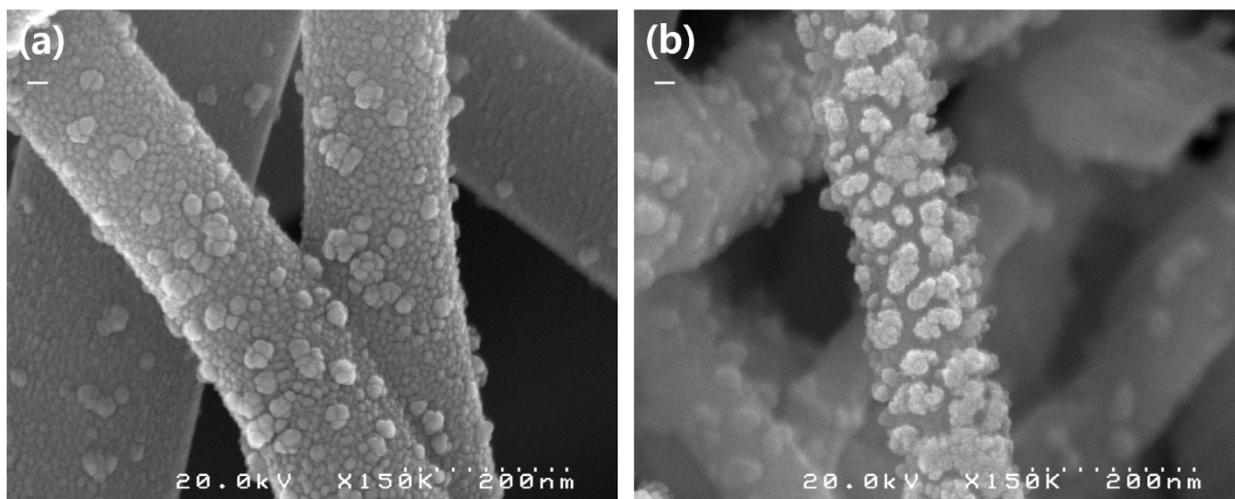


Figure S6. FE-SEM images in high magnification of (a) PdO/WO_3 NFs prepared at 200 °C, and (b) PdO/WO_3 NFs prepared at 500 °C.

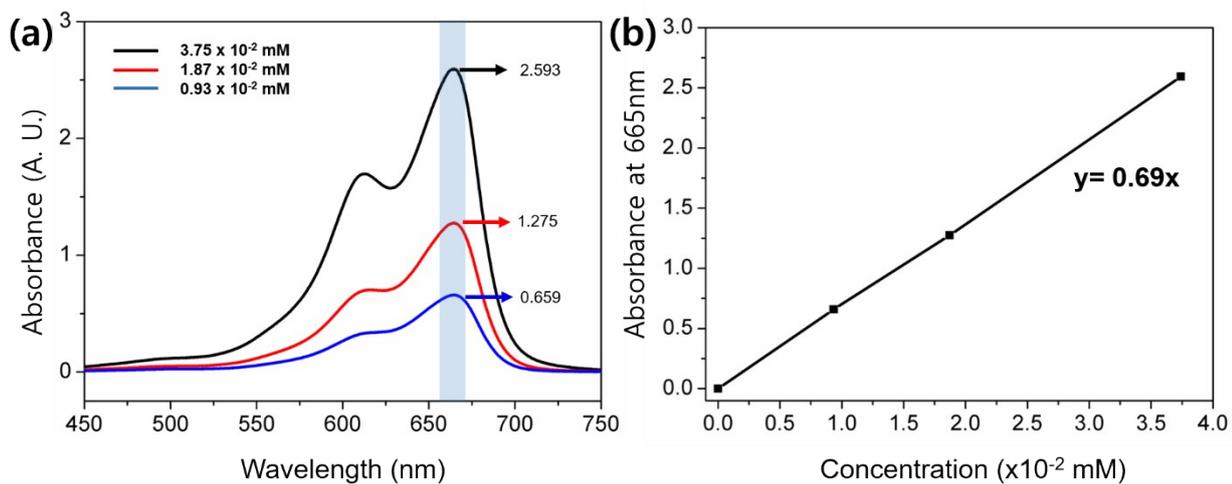


Figure S7. (a) UV/vis spectra of MB aqueous solutions with different concentration: 0.93 , 1.87 , 3.75×10^{-2} mM, (b) the resulting plot of absorbance at 665 nm as a function of solution concentration.