

Electronic Supporting Information

Biomimetic synthesis of 1D Ag_3PO_4 -NPs/Cu-NWs with visible-light-enhanced photocatalytic activity for degradation of antibiotic Ciprofloxacin

Yuling Liu^a, Qingsheng Wu^{b,*}

^a Tongji University, 1239 Siping Road, Shanghai 200092, China. E-mail: qswu@tongji.edu.cn;

^b Department of Chemistry and Chemical, Heze College, 2269 Daxue Road, HeZe 274015, China.

*Corresponding author:
Qingsheng Wu

Phone: (0086) 021-65982620

Fax: (0086) 021-65982620

Email address: qswu@tongji.edu.cn

Fig. S1 shows the SEM and TEM images of Ag_3PO_4 @Cu NWs ($\text{AC}_{0.15}$, $\text{AC}_{0.3}$ and $\text{AC}_{0.45}$). From which we can see that the Ag_3PO_4 NPs in $\text{AC}_{0.15}$ are Small and thin compared with the other two samples ($\text{AC}_{0.3}$ and $\text{AC}_{0.45}$). In comparison, the morphology of the $\text{AC}_{0.3}$ is the best.

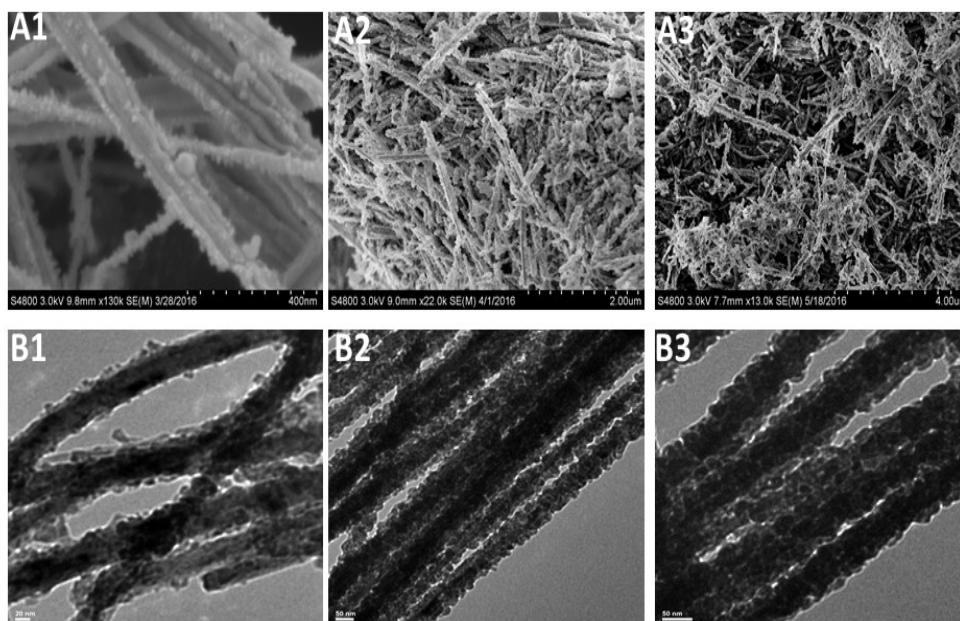


Fig.S1 SEM images (A1-A3) of Ag_3PO_4 @Cu NWs($\text{AC}_{0.15}$, $\text{AC}_{0.3}$ and $\text{AC}_{0.45}$,

respectively); TEM images (B1-B3) of $\text{Ag}_3\text{PO}_4@\text{Cu}$ NWs ($\text{AC}_{0.15}$, $\text{AC}_{0.3}$ and $\text{AC}_{0.45}$, respectively).

Fig. S2 shows the XRD patterns of $\text{Ag}_3\text{PO}_4@\text{Cu}$ NWs ($\text{AC}_{0.15}$, $\text{AC}_{0.3}$, $\text{AC}_{0.45}$). According to the XRD patterns, we know the peak of Ag_3PO_4 NPs in $\text{AC}_{0.45}$ is very weak while the peak of Ag becomes strong and all the diffraction peaks of Ag belong to JCPDS#87-0717, this indicates that the replacement reaction of Ag^+/Cu happens more with the increase of concentration of $[\text{Ag}^+]$, so controlling the concentration of $[\text{Ag}^+]$ is very important also in the process of biomimetic synthesis.

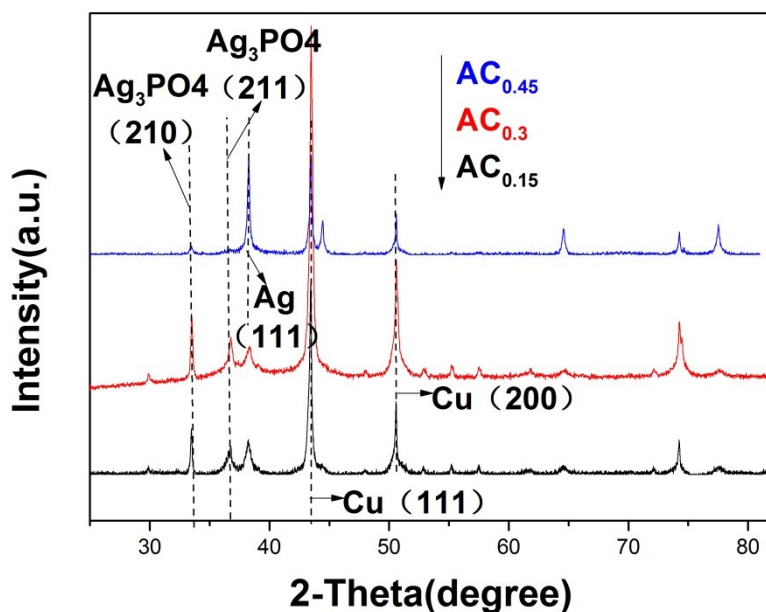


Fig.S2 the XRD patterns of $\text{Ag}_3\text{PO}_4@\text{Cu}$ NWs ($\text{AC}_{0.15}$, $\text{AC}_{0.3}$, $\text{AC}_{0.45}$)

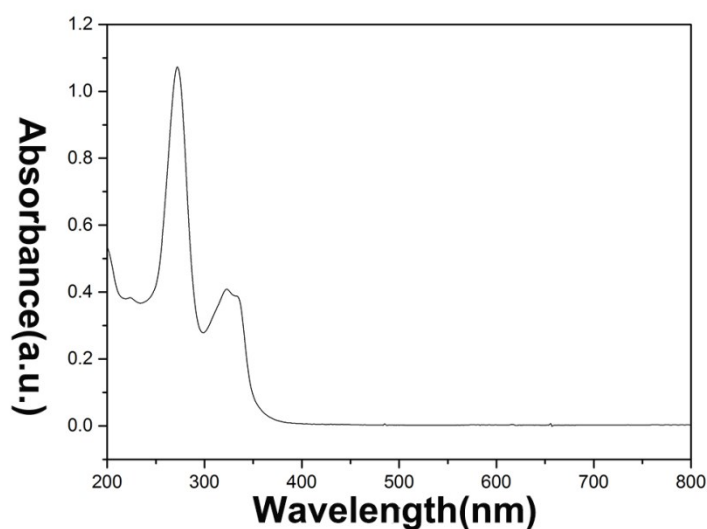


Fig. S3 The absorption spectrums of CPFX

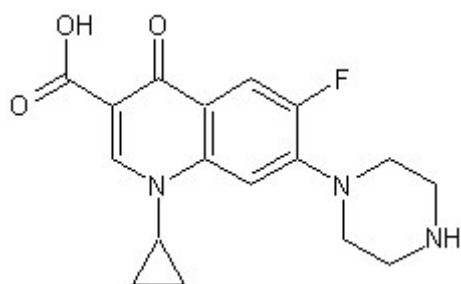


Fig. S4 The chemical structural formula of CPFX

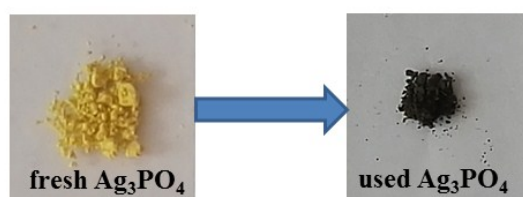


Fig. S5 the color change of Ag_3PO_4 before and after use