## **Electronic Supplementary Information (ESI)**

The Loading of Coordination Complex Modified Polyoxometalate Nanobelts on Activated Carbon Fiber: a Feasible Strategy to Obtain Visible Light Active and High Efficient Polyoxometalate Based Photocatalyst

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Empirical formula $C_{48}H_{55}N_{12}O_{46}SiW_{11}Zn$ Formula weight $3651.77$ Crystal systemTriclinicSpace group $P - 1$ $a/Å$ $13.1329(6)$ $b/Å$ $14.3222(6)$ $c/Å$ $23.9745(10)$ $a/°$ $77.7510(10)$ $\beta/°$ $79.0530(10)$ $\gamma/°$ $66.4830(10)$ $V/Å^3$ $4012.8(3)$ $Z$ $2$ $D_{calcd}/(g cm^{-3})$ $2.948$ Reflections collected $19455$ Reflections unique $13427$ $R(int)$ $0.0255$ Goodness - of - fit on F² $1.030$ $R_1 [I > 2\sigma(I)]$ $0.1663$ $R_I$ (all data) $0.0663$ $wR_2$ (all data) $0.1762$		
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$R_1$ (all data)       0.0663 $wR_2$ (all data)       0.1762	$wR_2 [I > 2\sigma(I)]$	0.1663
$wR_2$ (all data) 0.1762	$R_I$ (all data)	0.0663
	$wR_2$ (all data)	0.1762

Table S1. Crystal data and structure refinement results for  $ZnSiW_{11}$ 

Note.  $R_1 = \Sigma ||F_o| - |F_c|| / \Sigma |F_o|$ ;  $wR_2 = \Sigma [w(F_o^2 - F_c^2)^2] / \Sigma [w(F_o^2)^2]^{1/2}$ 



Figure S1. TGA curve of ZnSiW<sub>11</sub>NB.



Figure S2. XPS spectrum of ACF (C1s peak of ACF).



Figure S3. DRS of  $ZnSiW_{11}NB$  and  $ZnSiW_{11}NB/ACF$  composite materials.



Figure S4. Absorption spectra of RhB degraded with  $ZnSiW_{11}NB$ : (a) under irradiation of ultraviolet light; (b) under irradiation of visible light.



Figure S5. Absorption spectra of RhB degraded with  $ZnSiW_{11}NB/ACF$ : (a) ZnSiW<sub>11</sub>NB/ACF(A); (b) ZnSiW<sub>11</sub>NB/ACF(B); (c) ZnSiW<sub>11</sub>NB/ACF(C); (d) ZnSiW<sub>11</sub>NB/ACF(D).



Figure S6. Absorption spectra of RhB degraded with ACF.



Figure S7. Absorption spectra of RhB degraded with ZnSiW<sub>11</sub>NB/ACFM: (a) ZnSiW<sub>11</sub>NB/ACF(A)M; (b) ZnSiW<sub>11</sub>NB/ACF(B)M; (c) ZnSiW<sub>11</sub>NB/ACF(C)M; (d) ZnSiW<sub>11</sub>NB/ACF(D)M.