Supporting Information

A parallel array of Pt/Polyoxometalates composite nanotubes with stepwise inside diameter control and its application in catalysis

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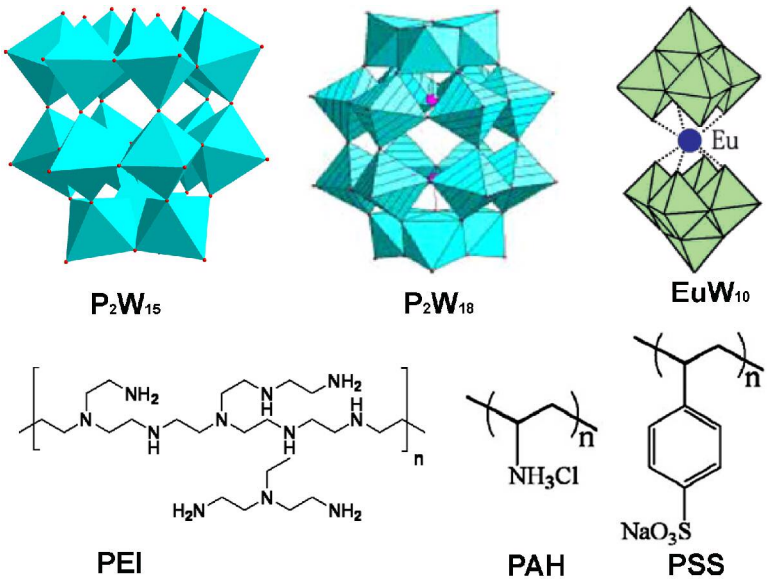


Figure S1. All structures of the referring compounds.

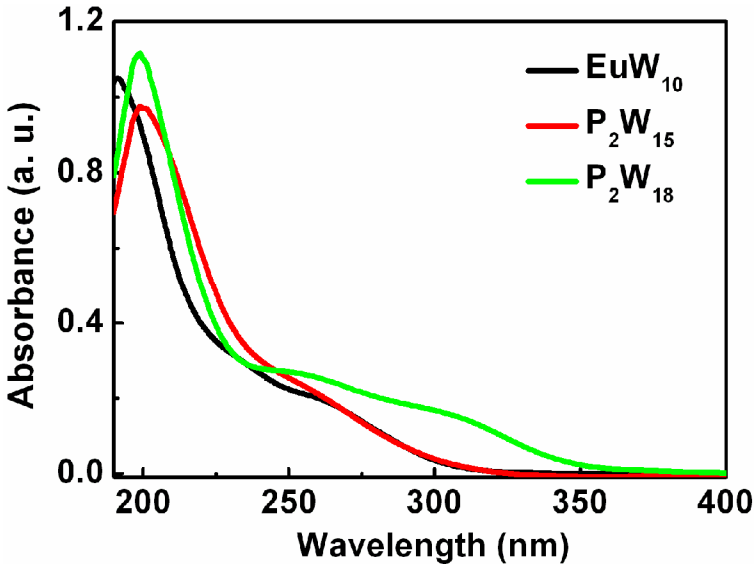


Figure S2. UV–vis spectra of the as-prepared compositions: α-$K_6P_2W_{18}O_{62}$ (P_2W_{18}), $Na_{12}P_2W_{15}O_{56}\cdot 18H_2O$ (P_2W_{15}) and $Na_9EuW_{10}O_{36}\cdot 32H_2O$ (EuW_{10})

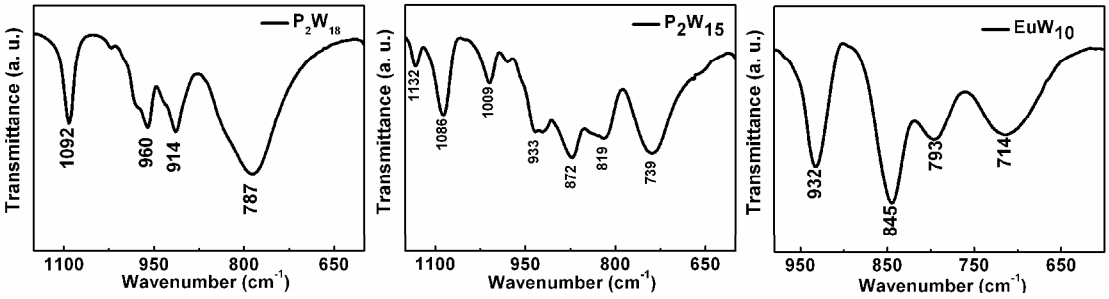


Figure S3. IR spectra of the as-prepared compositions: α-$K_6P_2W_{18}O_{62}$ (P_2W_{18}), $Na_{12}P_2W_{15}O_{56}\cdot 18H_2O$ (P_2W_{15}) and $Na_9EuW_{10}O_{36}\cdot 32H_2O$ (EuW_{10}).

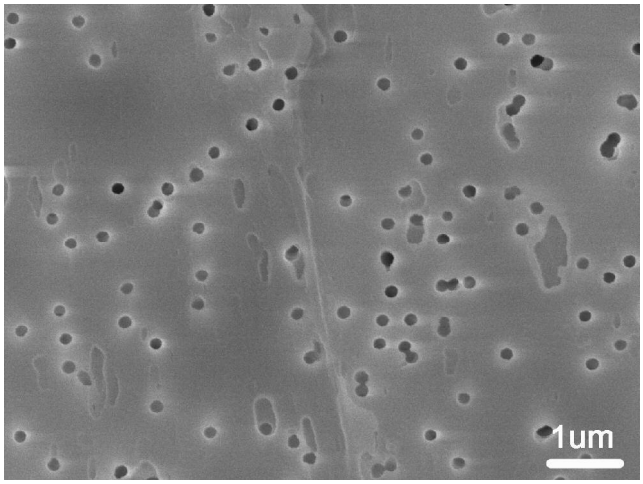
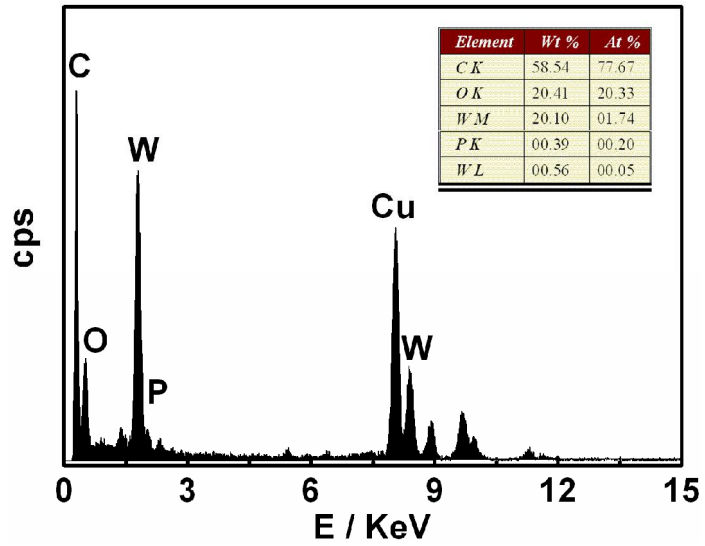
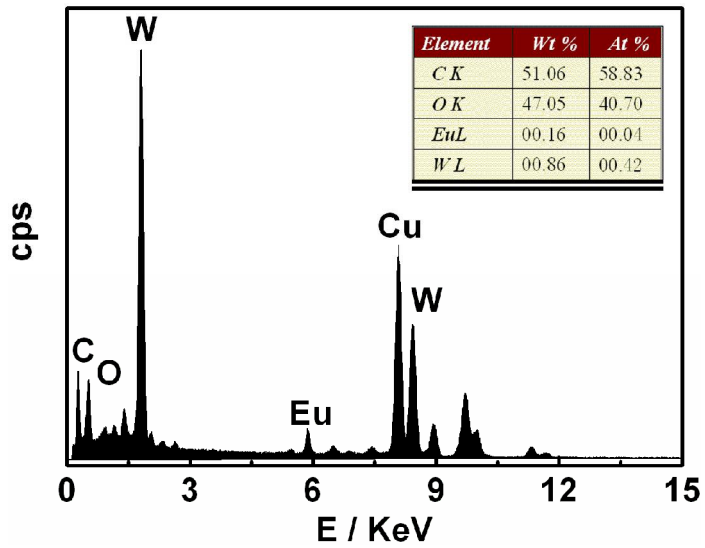


Figure S4. SEM images of PC membranes with an average pore diameter of about 200 nm



Element	Wt %	At %
C K	58.54	77.67
O K	20.41	20.33
W M	20.10	01.74
P K	00.39	00.20
W L	00.56	00.05

Figure S5. The EDX spectrum of the $(P_2W_{18}/PAH)_{15}$ tubes



Element	Wt %	At %
C K	51.06	58.83
O K	47.05	40.70
EuL	00.16	00.04
W L	00.86	00.42

Figure S6. The EDX spectrum of the $(EuW_{10}/PAH)_{15}$ tubes

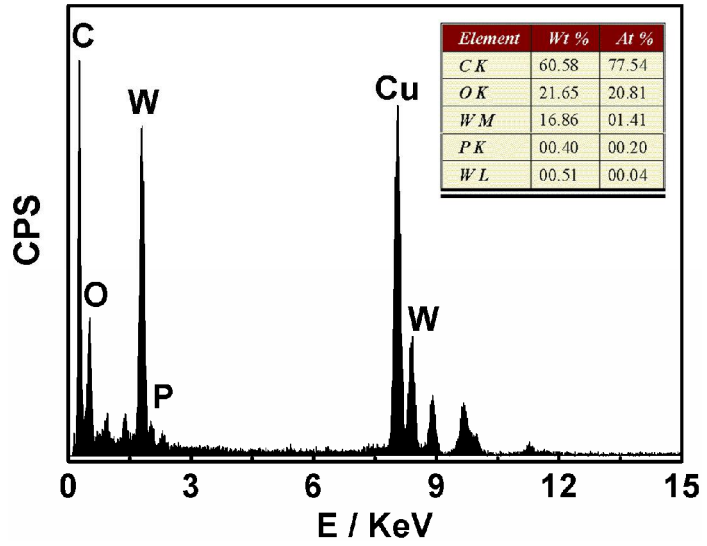


Figure S7. The EDX spectrum of the $(P_2W_{15}/PDDA)_{15}$ tubes

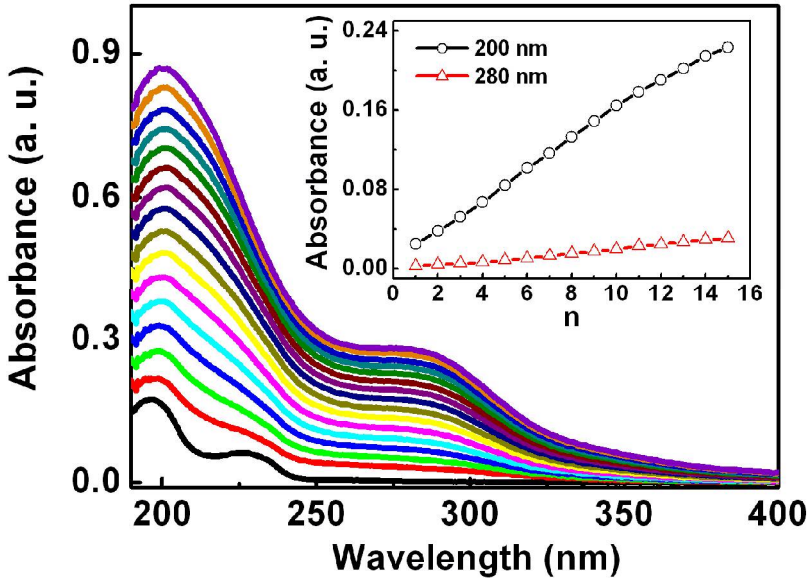


Figure S8. UV–vis spectra of $(P_2W_{18}/PAH)n$ with n = 0–15. The inset shows the absorbance at 200 and 280 nm as a function of n.

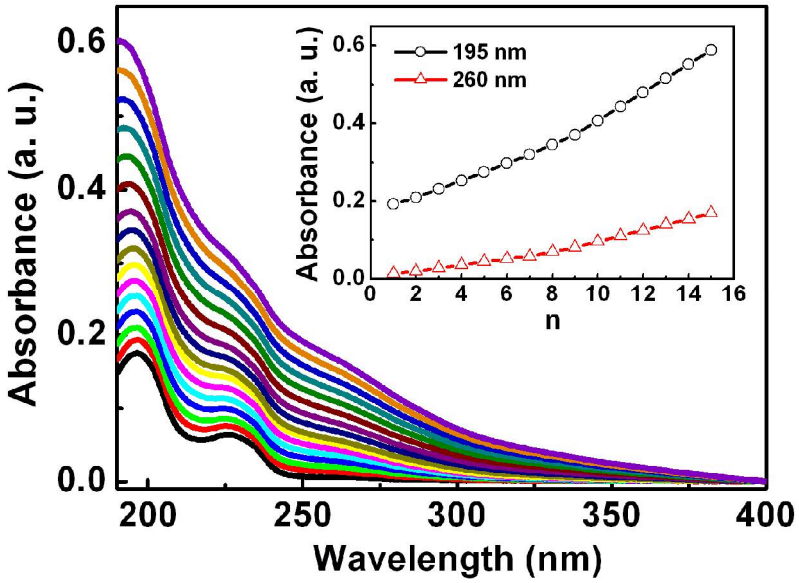


Figure S9. UV–vis spectra of (EuW_{10}/PAH)n with n = 0–15. The inset shows the absorbance at 195 and 260 nm as a function of n.

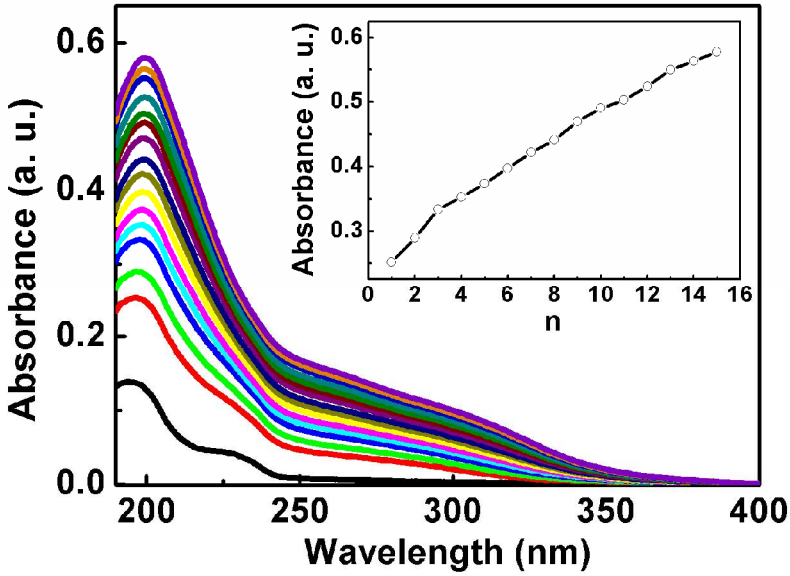


Figure S10. UV–vis spectra of (P_2W_{15}/PDDA)n with n = 0–15. The inset shows the absorbance at 198 nm as a function of n.

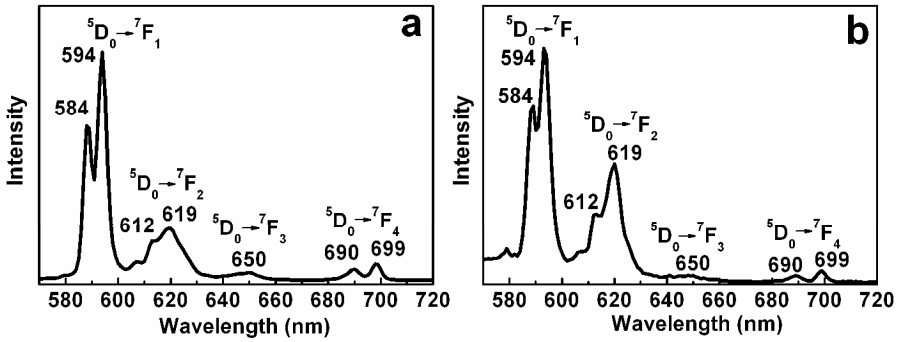


Figure S11. Photoluminescence spectra of EuW_{10} powder (a) and $(EuW_{10}/PAH)n$ nanotubes in solution (b) acquired at 298 K (λex = 260 nm).

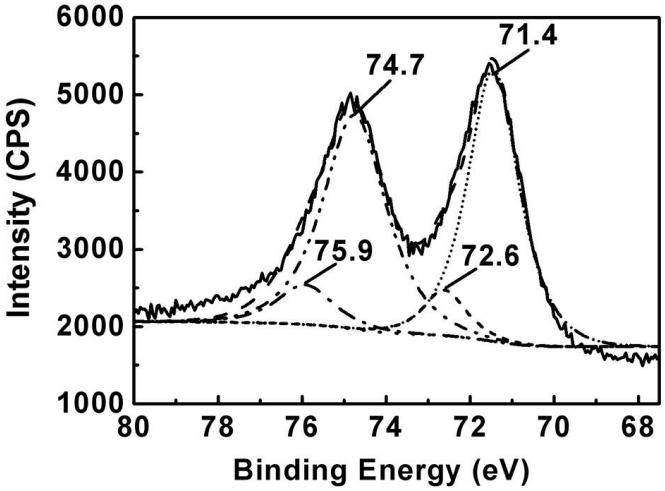


Figure S12. XPS spectrum of Pt4f peak of Pt/POM nanotubes composites