Electronic Supplementary Information (ESI)

EIS preparation

In a typical procedure, 0.005 g $K_3[Co(CN)_6]_2$ and 0.1 g PVP was added to a beaker, and then 10 mL deionized water and 10 mL absolute alcohol was added with stirring until complete dissolution. Then 10 mL manganous nitrate 3.33% solution was added to the mixture at room temperature. The mixture was vigorous magnetic stirring at room temperature for 2.5 h. The obtained homogeneous white precipitates were centrifuged and washed thoroughly with deionized water and absolute ethanol many times. Finally, the products were dried in the air.

Calculation

$$\text{Re moval}(\%) = \frac{(C_0 - C_e)}{C_0} \times 100 \quad (1); \qquad q_t = \frac{(C_0 - C_t)\ V}{M} \quad (2)$$

where C_0, C_t and C_e (mg L^{-1}) are the initial, t time and equilibrium concentrations of MB solution, respectively; V (L) is the volume of MB solution and M (g) is the weight of P.

Based (1) and (2) : Removal (%)=$[(C_0\text{-}C_e)/(C_0\text{-}C_t)]\times[100\ M\ q_t/C_0V]$ (3);

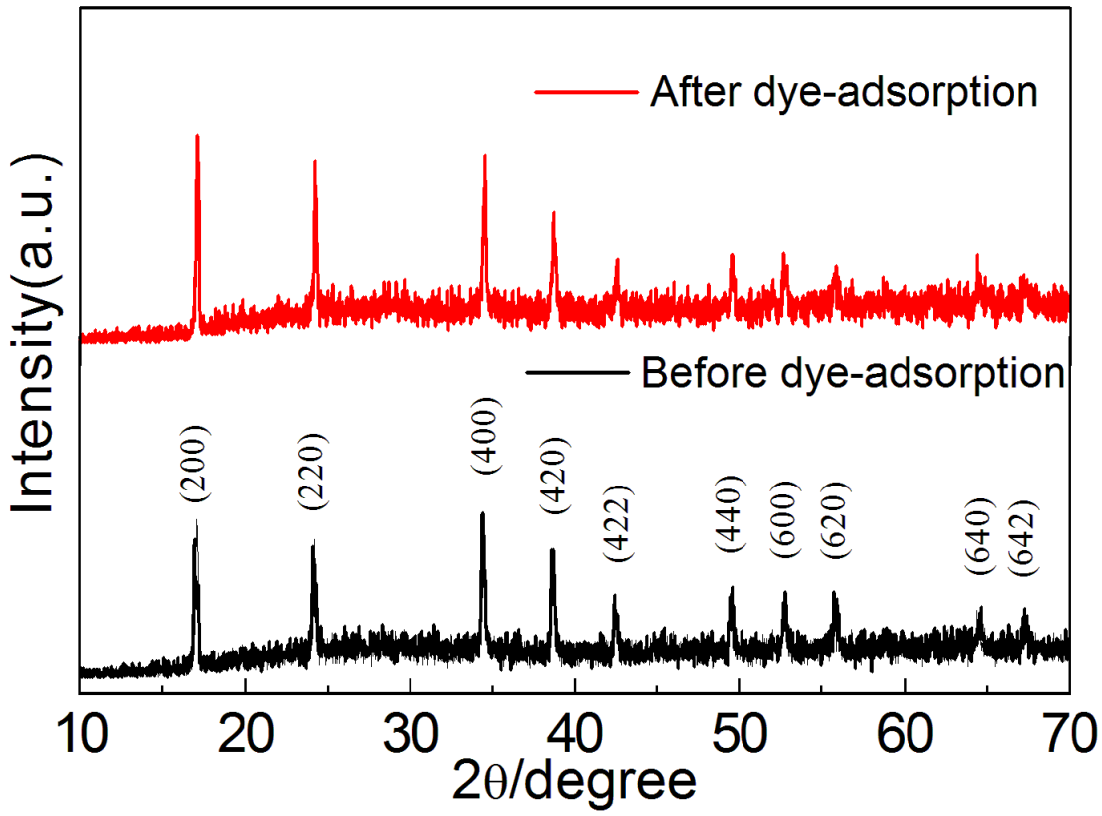
When the adsorption equilibrium C_e=C_t; Removal (%)=$100Mq_t/C_0V$ (4);

We can calculate Removal (%) based on (4) equation using data of Table 1 or Fig. 4 in manuscript;

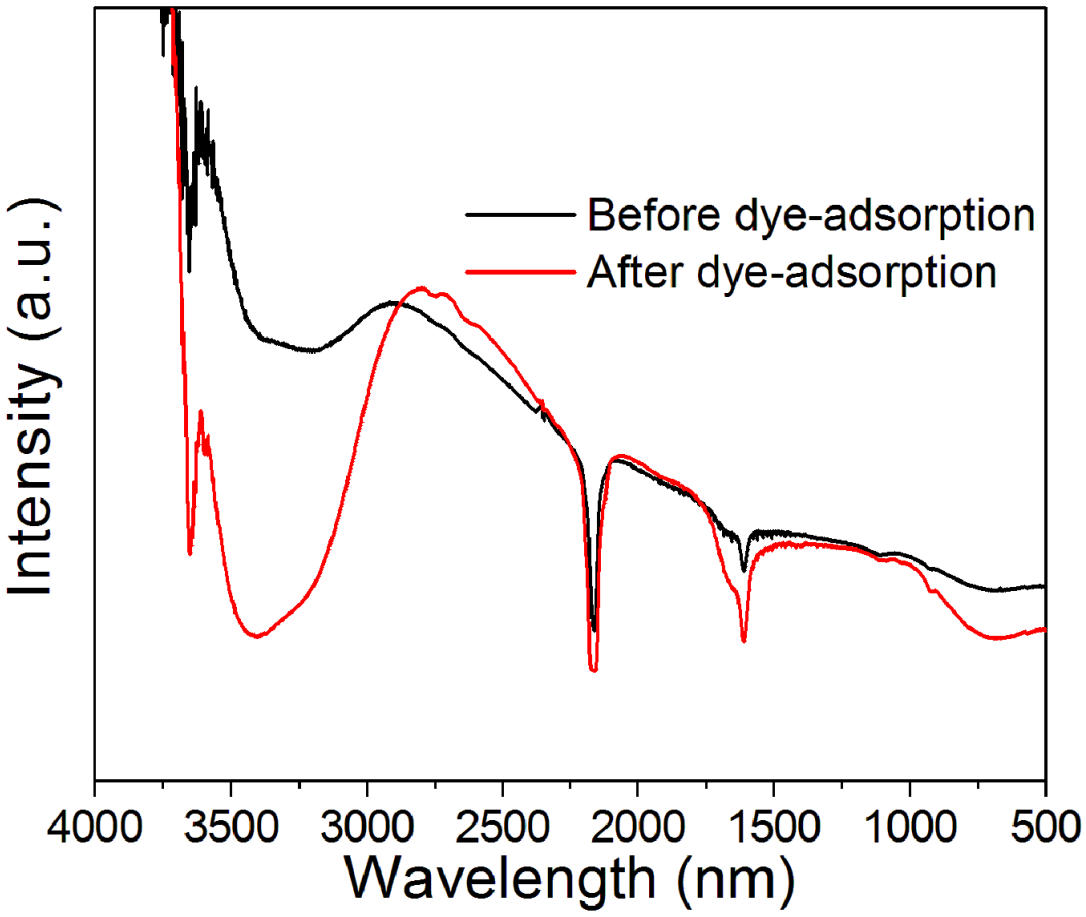
For example: Removal $(\%)_{50\ mg/L}$=(100×0.1×0.0247)/(0.05×0.05)=98.8

ESI Table 1 The influence of initial concentrations on removal efficiency (%) of MB on P. Conditions: P: 0.1 g; MB: 50 mL, 50-1000 mg L^{-1}; temperature: 16 ^{o}C; contact time: 5 h.

Initial concentration (mg/L)	50	100	200	300	400	500	1000
Removal of MB (%)	98.8	96.5	99.2	98.8	99.2	98.3	98



ESI Fig. 1 XRD patterns of $Mn_3[Co(CN)_6]_2\,nH_2O$ nanocubes, before dye-adsorption and after dye-adsorption



ESI Fig. 2 IR of $Mn_3[Co(CN)_6]_2\,nH_2O$ nanocubes, before dye-adsorption and after dye-adsorption.

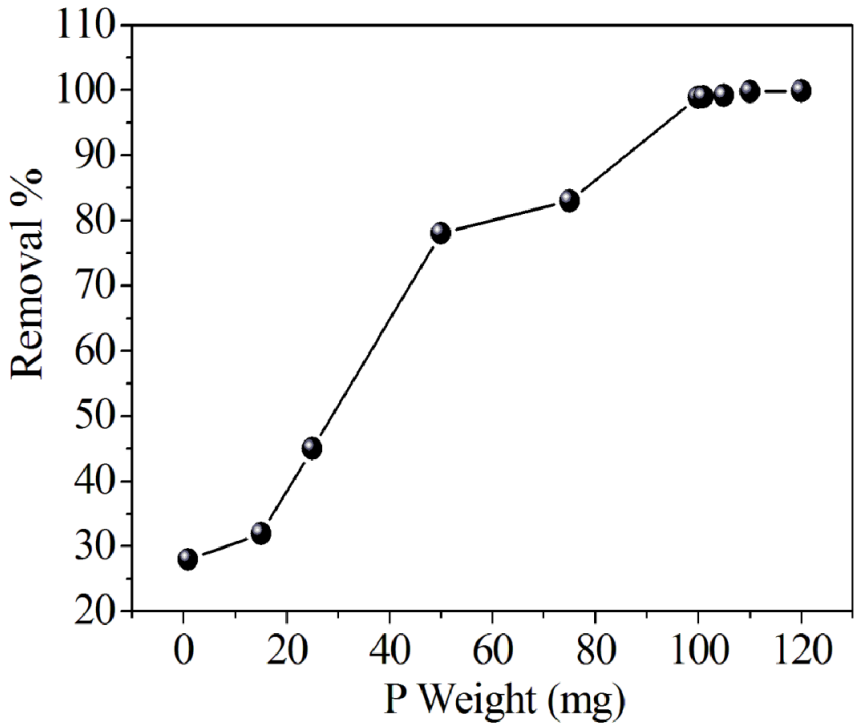
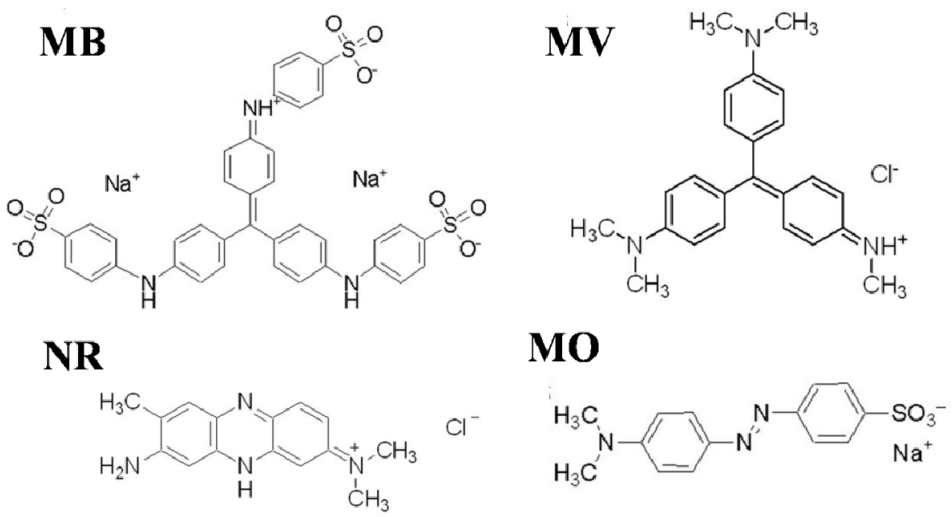
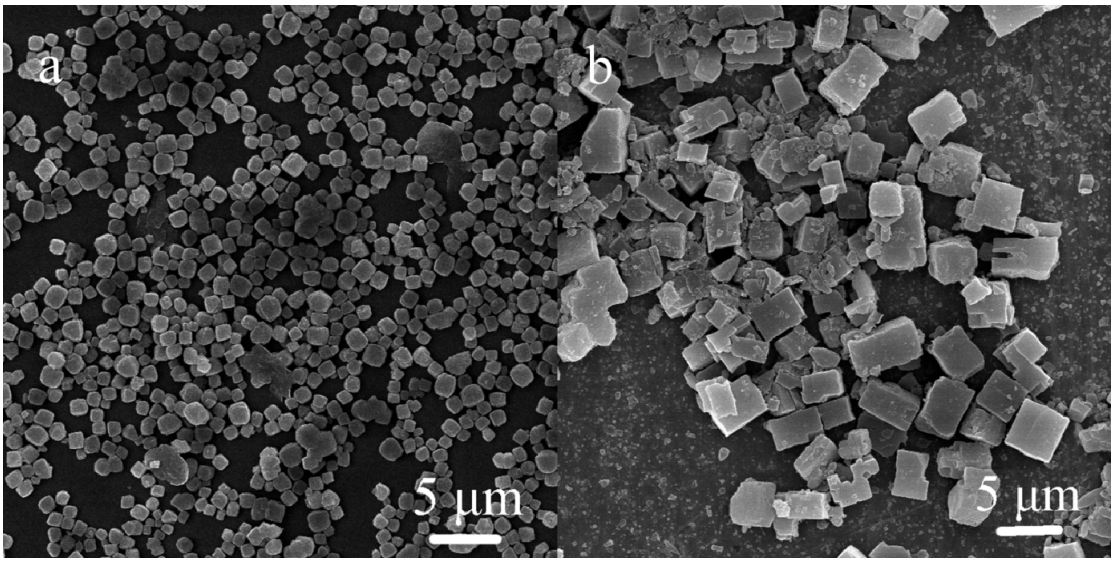


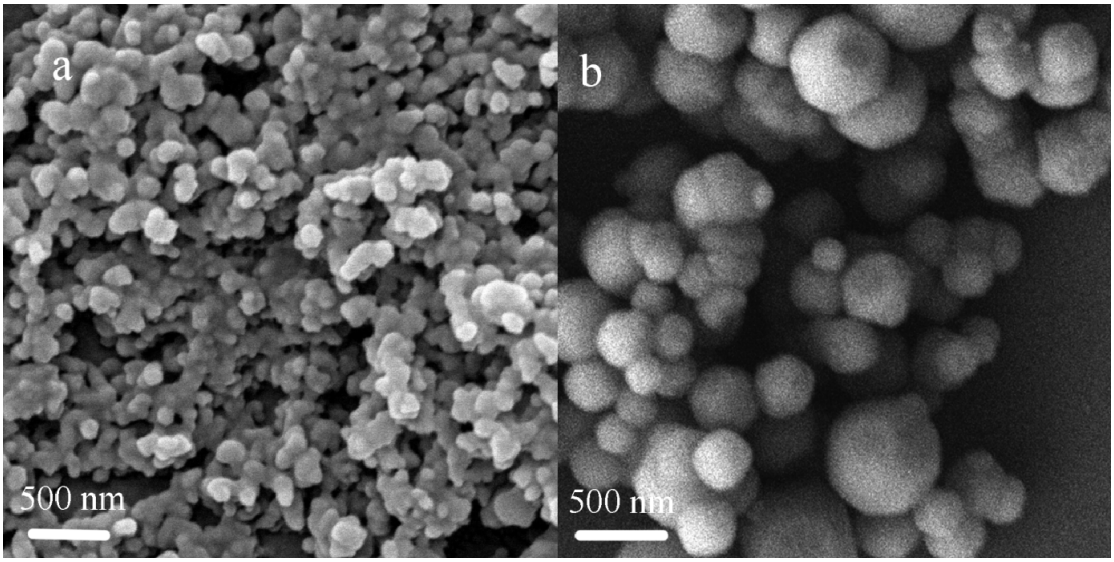
Fig. 3 Removal capacity of dyes for different amounts of P used; concentration of dyes:50 mL, 50 mg L^{-1}; temperature: 16 ^{o}C; contact time:5 h.



ESI Fig. 4 The adsorbate methylene blue (MB); methyl violet (MV); neutral red (NR); methyl orange (MO).



ESI Fig. 5 SEM images of Fe(II)/Fe(III) Prussian Blue (a) 0.1 g $K_3[Fe(CN)_6]$, 0.1 g glucose, hydrothermal condition for 12 h, named F1 ; (b) 0.1 g $K_3[Fe(CN)_6]$, 0.1 g glucose, hydrothermal condition for 24 h, named F2.



ESI Fig. 6 SEM images of $Mn_3[Co(CN)_6]_2\,nH_2O$ (a) 0.002 g $K_3[Co(CN)_6]_2$, 5 mL manganous nitrate 3.33% solution was added to the mixture at room temperature, the product named P_0 ; (b) 0.005 g $K_3[Co(CN)_6]_2$, 10 mL manganous nitrate 3.33% solution was added to the mixture at room temperature, the produce named P_1.

	P_0	P_1	P
BET (m^2/g)	209	302	474
Removal (%)	81	89	98.8

ESI Table 2 BET and Removal capacity of MB for P_0, P_1 and P; MB:50 mL, 50 mg L^{-1}; temperature: 16 ^oC; contact time:5 h

Removal (%)	P	activated carbon
MB	96.5	93.2
MV	82.6	92.1
MO	80.2	97.8
NV	95.8	98.2

ESI Table 3 Removal capacity of dyes for P and activated carbon; concentration of dyes:50 mL, 100 mg L^{-1}; temperature: 16 ^oC; contact time:5 h.