Electronic Supplementary Material (ESI) for Dalton Transactions.

Facile synthesis of one-dimensional hierarchical magnetic metal silicate microtubes with enhanced adsorption performance

Qian Niu[a], Min Zhang*[a], Libin Liu[b], Jing Zheng[a], Qunling Fang[c], Jingli Xu[a]

[a] College of Chemistry and Chemical Engineering, Shanghai University of Engineering Science, Shanghai 201620, China. Email: zhangmin@sues.edu.cn

[b] School of Chemistry and Pharmaceutical Engineering, Qilu University of Technology (Shandong Academy of Sciences), Jinan 250353, China.

[c] School of Food and Biological Engineering, Key Laboratory of Metabolism and Regulation for Major Diseases of Anhui Higher Education Institutes, Hefei University of Technology, Hefei, 230009, PR China

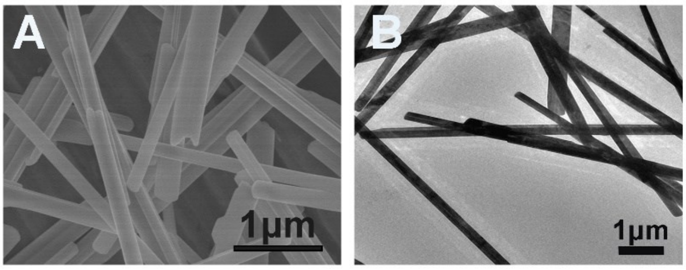

Figure S1. SEM and TEM images of MoO_3 (A, B)

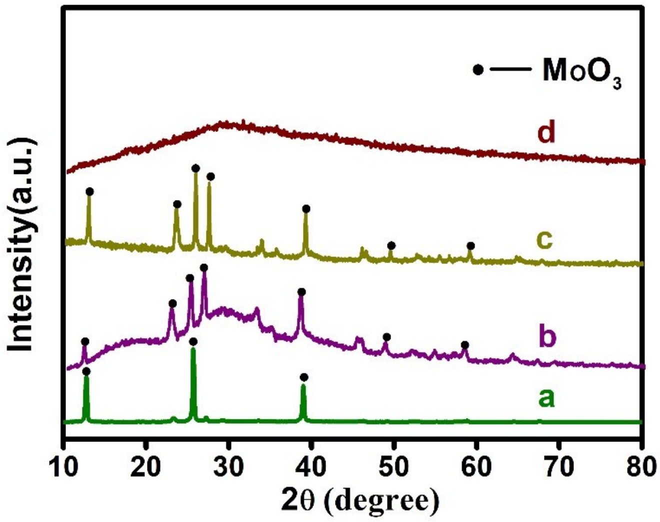

Figure S2. XRD patterns of the as-prepared MoO_3 (a), MoO_3@PPy (b), MoO_3@PPy@FeOOH (c) and PPy@FeOOH@SiO_2(d).

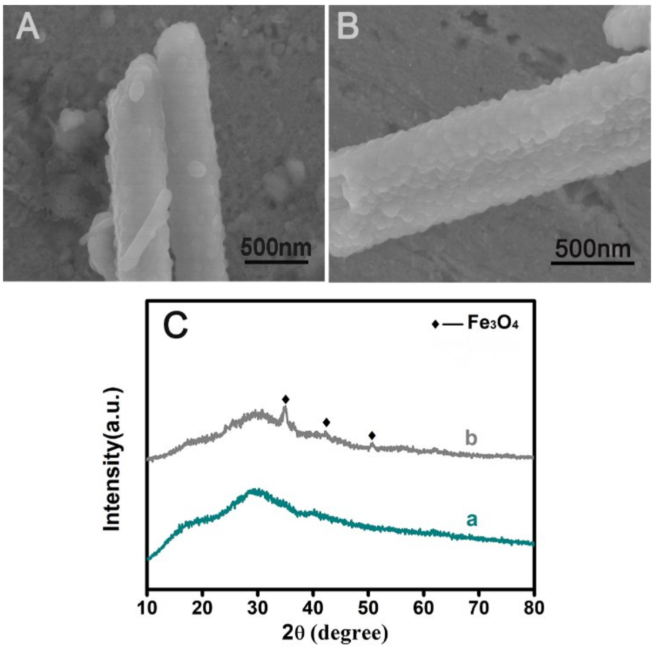

Figure S3. SEM images of carbonized products : PPy@FeOOH@SiO_2-500 (A) and PPy@FeOOH@SiO_2-700 (B); (C) XRD patterns of PPy@FeOOH@SiO_2-500 (a) and PPy@FeOOH@SiO_2-700.

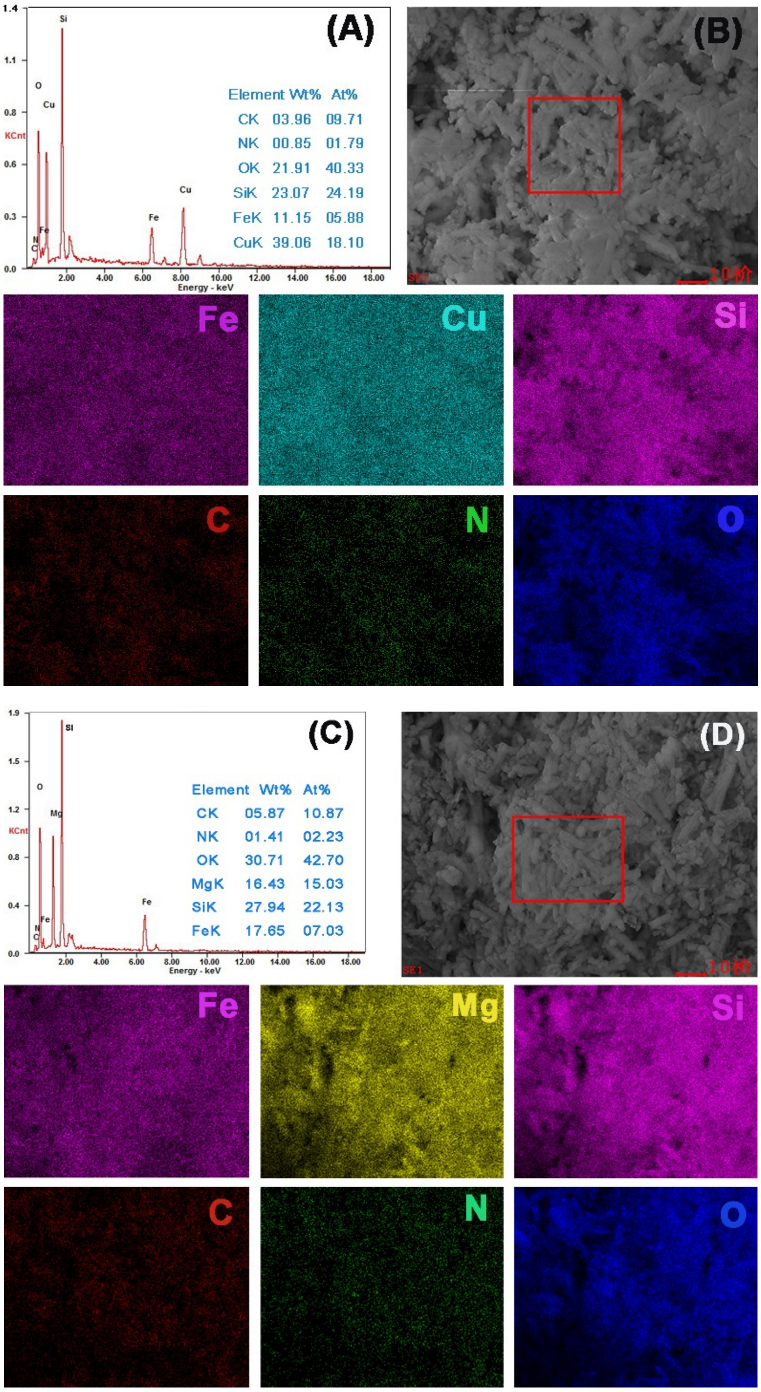

Figure S4. (A) EDX spectrum of C@Fe_3O_4@$CuSiO_3$ and the text inserted is the content of the element, (B) EDS elemental mapping analysis of C@Fe_3O_4@$CuSiO_3$, (C) EDX spectrum of C@Fe_3O_4@ $MgSiO_3$ and the text inserted is the content of the element, (D) EDS elemental mapping analysis of C@Fe_3O_4@$MgSiO_3$.

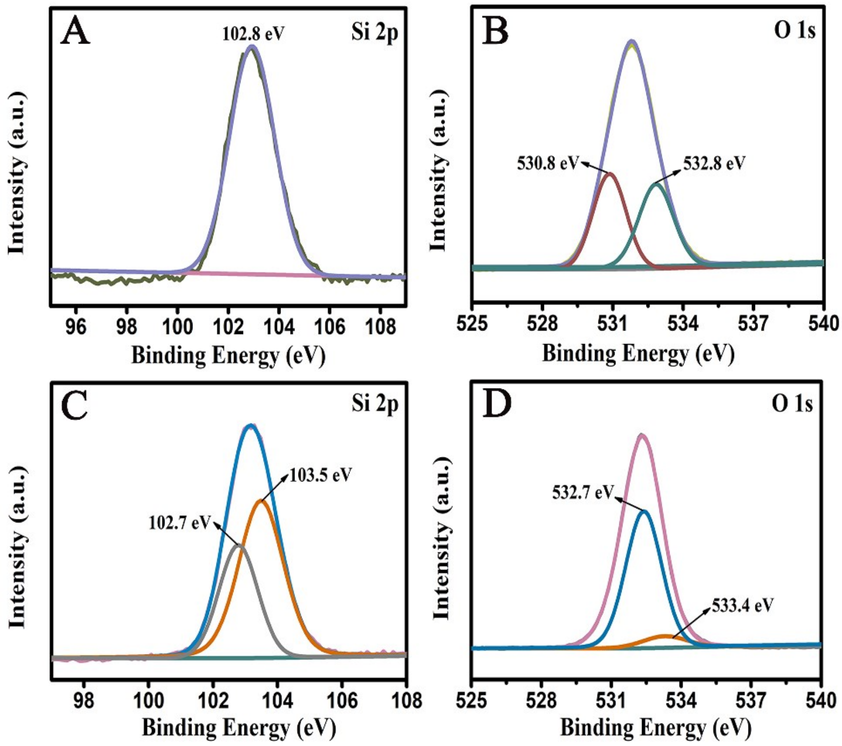

Figure S5. XPS spectra of C@Fe_3O_4@$CuSiO_3$: Si 2p (A), O 1s (B); XPS spectra of C@Fe_3O_4@$MgSiO_3$: Si 2p (C), O 1s (D)

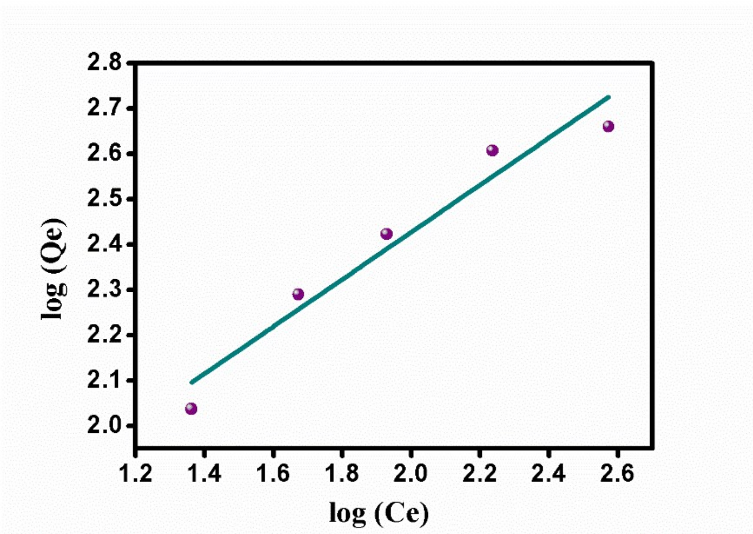

Figure S6. Linear fitting of adsorption isotherm plots based on Freundlich model

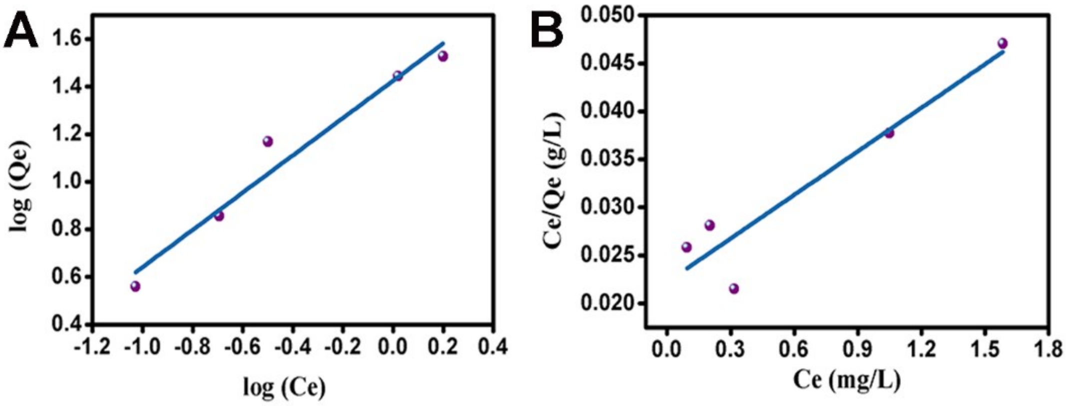

Figure S7. Linear fitting of adsorption isotherms plots based on Freundlich model (A) and Langmuir model (B)

Table S1. The saturation magnetizations, remnant magnetization and Coercivity of the samples

Sample	saturation magnetization (emu/g)	remnant magnetization (emu/g)	coercivity (Oe)
$C@Fe_3O_4@CuSiO_3$	1.66	0.29	96.58
$C@Fe_3O_4@MgSiO_3$	3.07	0.76	98.97

Table S2. Parameters of adsorption models

Freundlich			Langmuir		
K_f	n	R^2	$q_{m(mg/g)}$	K_d	R^2
26.546	1.277	0.9487	66.67	0.6802	0.8607