Supporting Information for

Amino Acid Assisted Templating Synthesis of Hierarchical Zeolitic Imidazolate Framework-8 for Efficient Arsenate Removal

Yi-nan Wu, Meimei Zhou, Bingru Zhang, Baozhen Wu, Jie Li, Junlian Qiao, Xiaohong Guan, and *Fengting Li**

College of Environmental Science and Engineering, State Key Laboratory of Pollution Control and Resource Reuse, Tongji University, Siping Rd 1239, 200092 Shanghai, China.

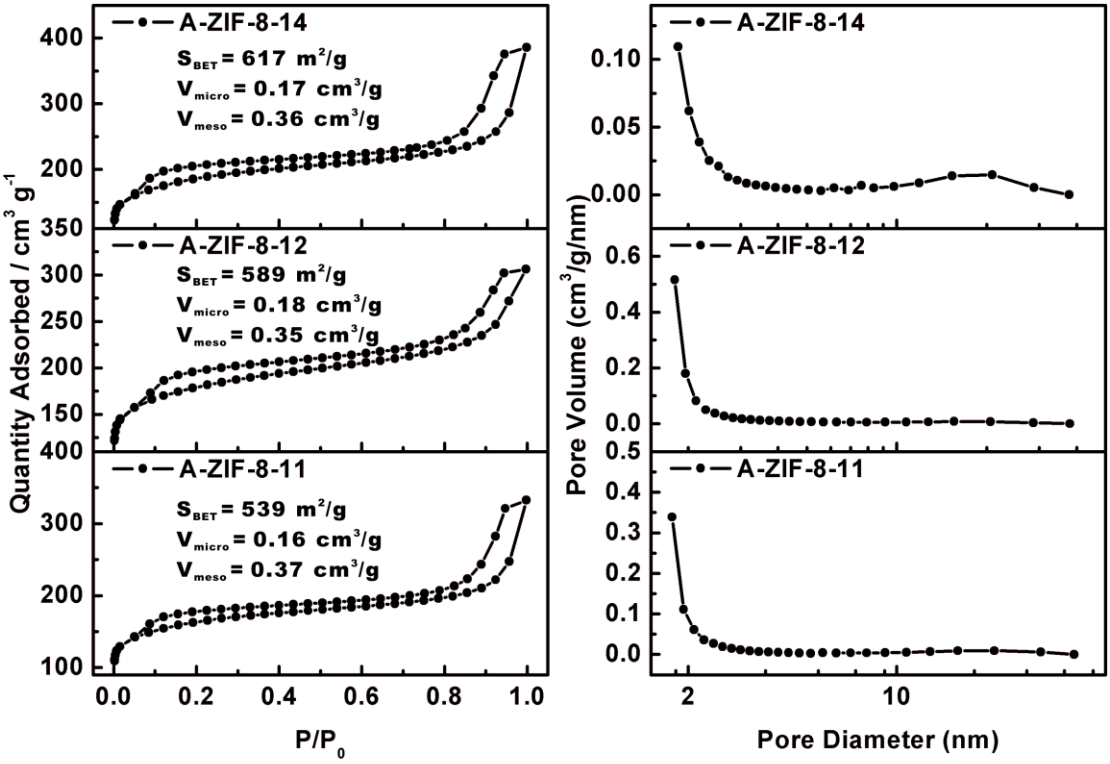

Figure S1 N_2 adsorption-desorption isotherms of the A-ZIF-8 with different CTAB:His molar ratios: 1:1, 1:2, 1:4 and corresponding distributions of pore diameters obtained from the desorption branch using Barrett-Joyner-Halenda (BJH) method.

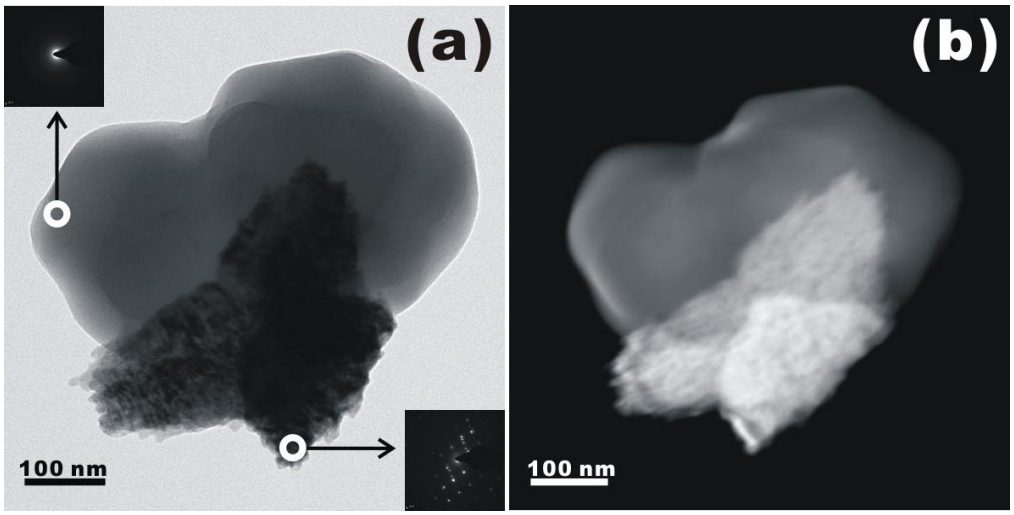

Figure S2 a) The TEM image of the normal ZIF-8 nanocrystal synthesized in water and concomitant byproduct, in which the corresponding SAED patterns indicates the crystalline byproduct are not the ZIF-8. b) The corresponding STEM image, different contrasts of which also show the coexistence of ZIF-8 and crystalline byproduct.

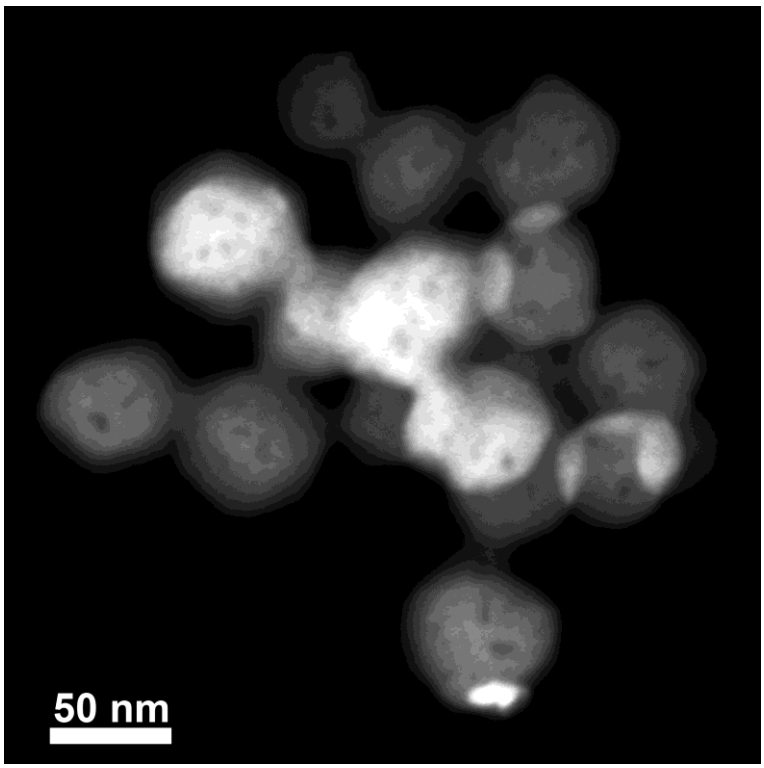

Figure S3 HAADF-STEM image of hierarchically structured ZIF-8 for CTAB:His ratio of 1:4

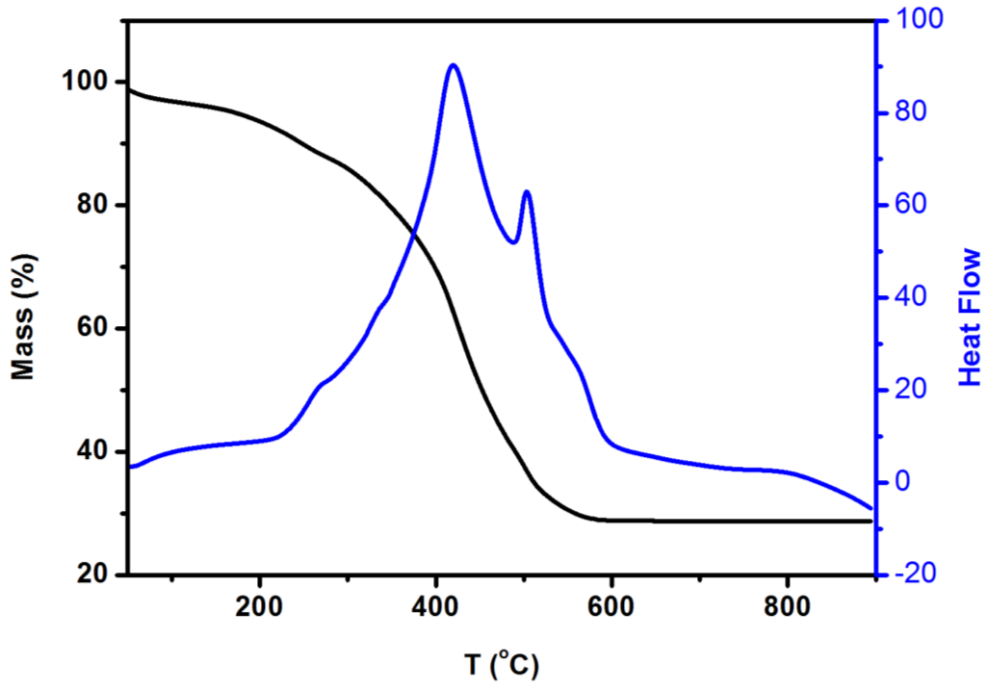

Figure S4 TGA and DTA curves for the as-prepared H-ZIF-8-14, denoted as H-ZIF-8-14-AP in a flow of air.

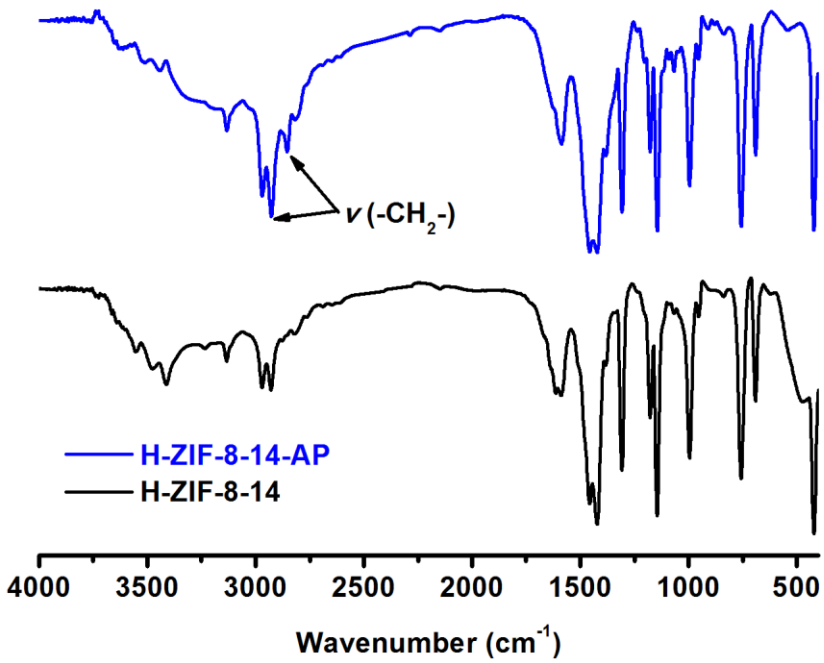

Figure S5 FT-IR results of as-prepared H-ZIF-8-14 (H-ZIF-8-14-AP) and H-ZIF-8-14.

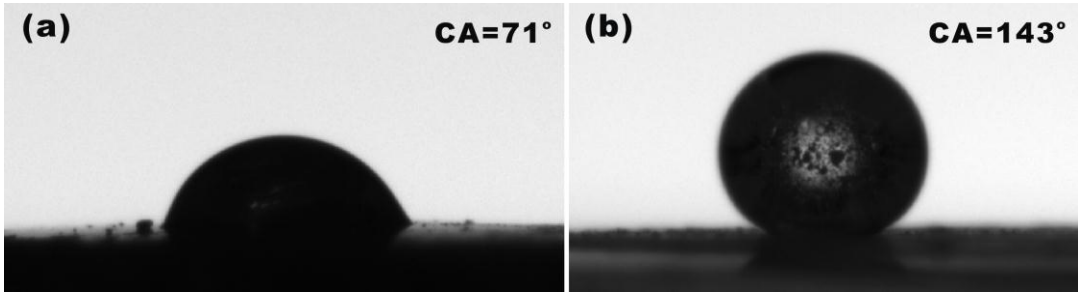

Figure S6 Optical images of a water droplet on the sample tablet prepared by a) normal ZIF-8 and b) H-ZIF-8-14.

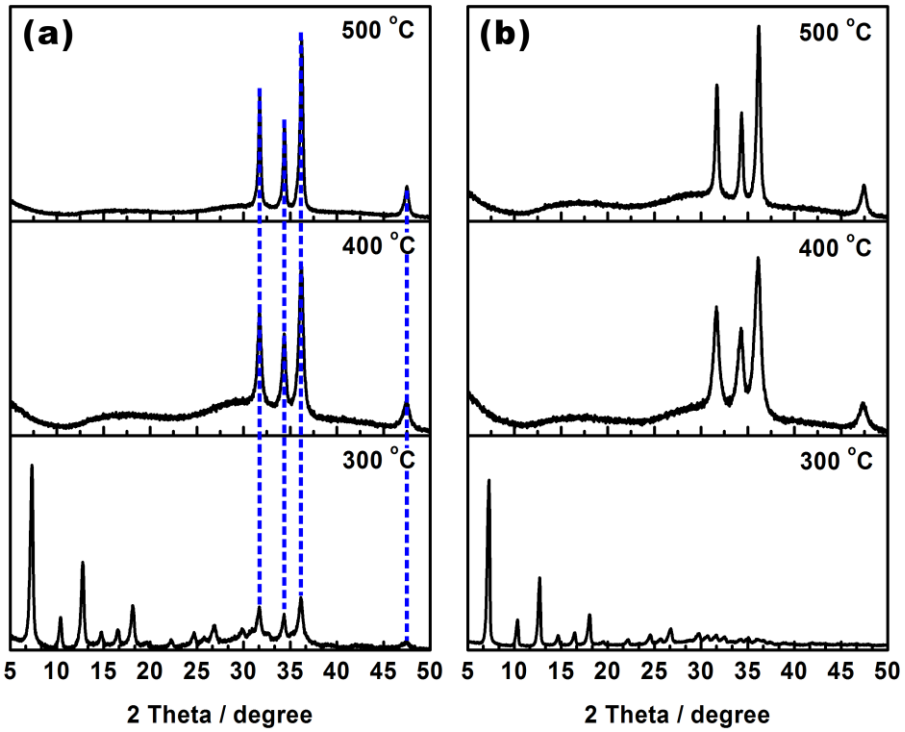

Figure S7 XRD patterns of (a) normal ZIF-8 synthesized in water and (b) H-ZIF-8-14 samples heated at different temperatures in air for 1 hour.

ZnO was formed when the temperature was higher than 300 ^{o}C, which is indexed in Figure S7 based on the criterion pattern of ZnO (JCPDS No. 65-3411).

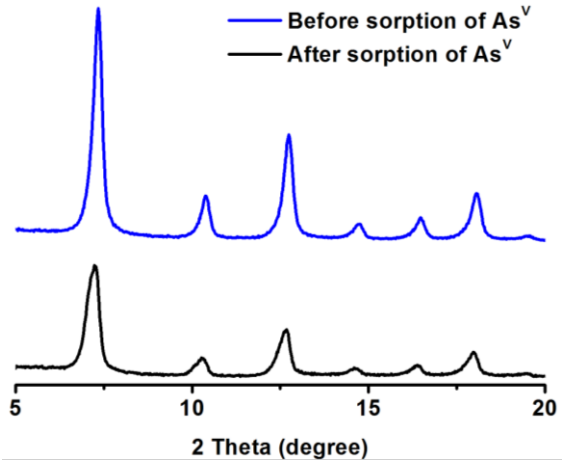

Figure S8 The XRD patterns of the H-ZIF-8-14 before and after sorption of As^V.

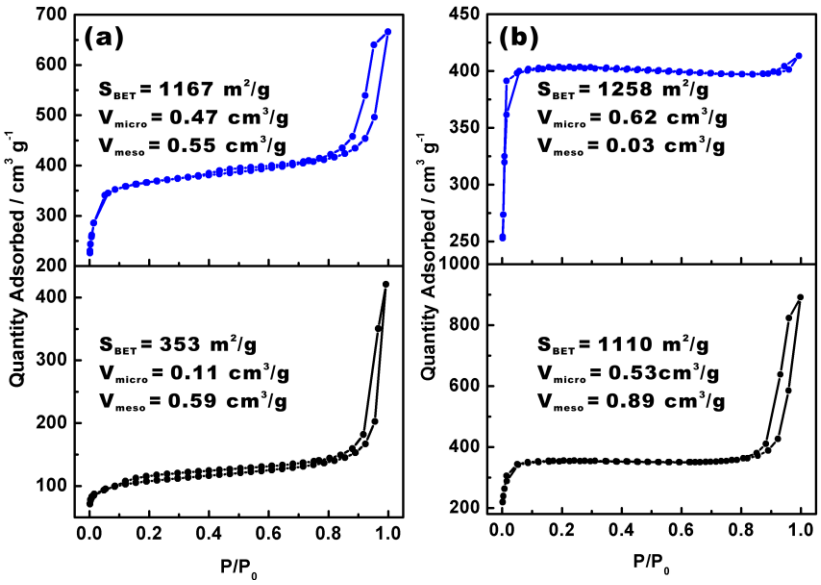

Figure S9 N_2 adsorption-desorption isotherms of a) the H-ZIF-8-14 and b) ZIF-8-MeOH before and after sorption of As^V.

Table S1. Regeneration of adsorbent H-ZIF-8-14 (initial concentration of As^V: 5.0 $mg \cdot L^{-1}$, dose (m/V) = 40 $mg \cdot L^{-1}$, t = 24 h, T = 25 ^oC, pH = 7.0)

Stripping Cycle	Recycle Efficiency (%)
1	96.18
2	88.04
3	83.21