Electronic Supplementary Material (ESI) for RSC Advances. This journal is © The Royal Society of Chemistry 2019

Supporting Information for

Study of The Modification Mechanism of Heavy Metal Ions Adsorbed

by Biomass Activated Carbon Doped with Solid Nitrogen Source

Wanlan Zheng, Shuang Chen, * Huie Liu, Yudi Ma, and Wenlong Xu

State Key Laboratory of Heavy Oil Processing, College of Chemical

Engineering, China University of Petroleum (East China), Qingdao,

Shandong 266580, China.

*E-mail: chsh1030@163.com (Shuang Chen)

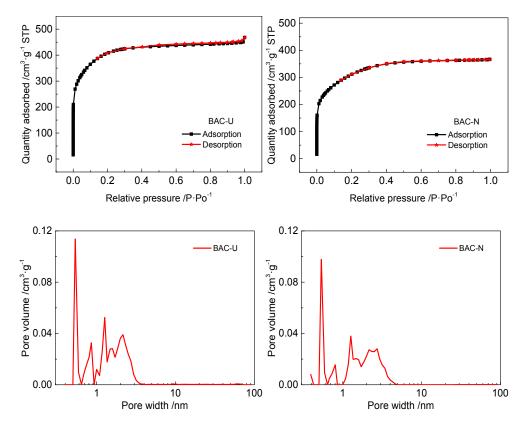


Fig.S1 N₂ adsorption-desorption isotherm and pore distribution of BAC-U and BAC-N

As shown in Figure S1, the isotherms of BAC-U and BAC-N can be classified as type IV, presenting a rapid adsorption of N_2 at low relative pressures and an adsorption platform at high relative pressures. Compared with BAC-U, the mesoporous porosity of BAC-N increased significantly in pore distribution curve.

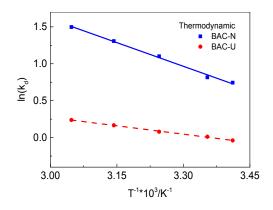


Fig.S2 Thermodynamic curve of BAC-U and BAC-N
Figure S2 shows the thermodynamic curves of two nitrogen-doped

activated carbons. The slope of two curves is less than zero, which indicates that the adsorption process is endothermic reaction. The adsorption performance of BAC-N is more obviously affected by temperature, because the absolute value of slope is larger.