Electronic Supplementary Material (ESI) for RSC Advances.

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Supplementary materials for

Effects of Granular Activated Carbon and Fe-modified Granular

**Activated Carbon on Anammox Process Start-up** 

Guangsong Lu<sup>a</sup>, Yunqian Ma<sup>a, c</sup>, Lihua Zang<sup>a</sup>, Yan Sun<sup>a</sup>, Fei Yu<sup>a,b</sup>, Rong Xue<sup>a,\*</sup>

<sup>a</sup> School of Environmental Science and Engineering, Qilu University of Technology

(Shandong Academy of Sciences), Jinan 250353, China.

<sup>b</sup> Key Laboratory of Pulp and Paper Science & Technology of Ministry of

Education/Shandong Province, Qilu University of Technology, Jinan, 250353, China.

<sup>c</sup> Beijing Key Laboratory of Ionic Liquids Clean Process, State Key Laboratory of

Multiphase Complex Systems, Institute of Process Engineering, Chinese Academy of

Sciences, Beijing, 100190, China.

\* Corresponding author: Rong Xue

Tel: +86-531-89631680; Fax: +86-531-89631680; E-mail: xr@qlu.edu.cn

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**Table S1**Composition of synthesis wastewater

Constituent	Concentration (g/L)	Constituent	Concentration (g/L)
NH <sub>4</sub> Cl	a	$MgSO_4 \cdot 7H_2O$	0.3
NaNO <sub>2</sub>	a	$\mathrm{KH_{2}PO_{4}}$	0.027
KHCO <sub>3</sub>	0.5	Trace element solution I b	1.25ml·L <sup>-1</sup>
CaCl <sub>2</sub> ·2H <sub>2</sub> O	0.18	Trace elements solution II c	1.25ml·L <sup>-1</sup>

<sup>&</sup>lt;sup>a</sup> NH<sub>4</sub><sup>+</sup>-N and NO<sub>2</sub><sup>-</sup>-N concentration adjusted as required.

 $<sup>^</sup>b$  Trace element solution I:  $5g\cdot L^{-1}$  EDTA and 9.14  $g\cdot L^{-1}$  FeSO $_4\cdot 7H_2O.$ 

 $<sup>\</sup>label{eq:cuso4} $^c$ Trace element solution II: 15 $g\cdot L^{-1}$ EDTA, 0.014 $g\cdot L^{-1}$ $H_3BO_4$, 0.99 $g\cdot L^{-1}$ MnCl$_2$ · 4H$_2O, 0.25 $g\cdot L^{-1}$ $CuSO_4$ · 5H$_2O, 0.43 $g\cdot L^{-1}$ ZnSO$_4$ · 7H$_2O, 0.21 $g\cdot L^{-1}$ NiCl$_2$ · 6H$_2O, 0.22 $g\cdot L^{-1}$ NaMoO$_4$ · 2H$_2O and 0.24 $g\cdot L^{-1}$ CoCl$_2$ · 6H$_2O.$ 

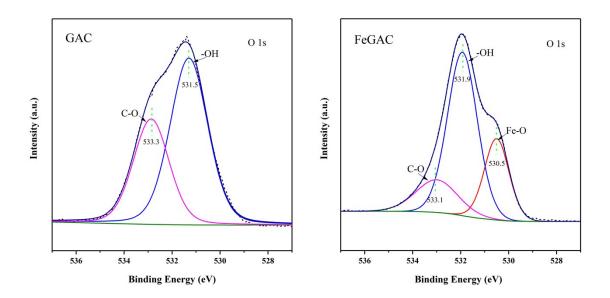
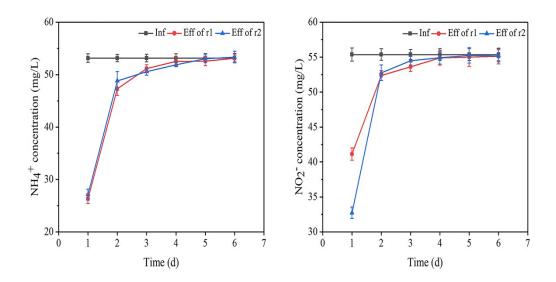


Fig. S1. The O1s XPS spectrums of GAC and FeGAC



**Fig. S2.** NH<sub>4</sub><sup>+</sup>-N and NO<sub>2</sub><sup>-</sup>-N concentration after adsorption. r1: GAC group (without microorganisms); r2: FeGAC group (without microorganisms)