

Supplementary data for

Green Synthesis of Magnetic Adsorbent Using Groundwater Treatment Sludge for Tetracycline AdsorptionZhan Qu ^{a,b}, Yaqiong Wu ^a, Suiyi Zhu ^{a,c,*}, Yang Yu ^d, Mingxin Huo ^a, Leilei Zhang ^{a,*}, Jiakuan Yang ^b, Dejun Bian ^{a,c}, Yi Wang ^a^a *Science and Technology Innovation Center for Municipal Wastewater Treatment and Water Quality Protection, Northeast Normal University, Changchun 130117, China*^b *School of Environmental Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China*^c *Engineering Lab for Water Pollution Control and Resources Recovery, Northeast Normal University, Changchun 130117, China*^d *Guangdong Shouhui Lantian Engineering and Technology Corporation, Guangzhou 510075, China*

* Corresponding author.

E-mail address: papermanuscript@126.com (S. Zhu), zhangl1554@nenu.edu.cn (L. Zhang)

Table S1

Mössbauer spectrum parameters of the sludge, MA0.6, MA1, MA2, and MA4.

Sample	Component	IS (mm·s ⁻¹)	QS (mm·s ⁻¹)	H _{in} (KOe)	HWHM (mm·s ⁻¹)	Ratio (%)
Sludge	Ferrihydrite	0.26	0.71		0.28	91.2
	α-Fe ₂ O ₃	0.41	0.36	471.8	0.19	8.8
	Ferrihydrite	0.27	0.70		0.26	88.6
MA0.6	γ-Fe ₂ O ₃	0.32	0.23	494.5	0.14	2.1
	α-Fe ₂ O ₃	0.40	0.38	473.8	0.29	9.3
	Ferrihydrite	0.28	0.71		0.26	86.5
MA1	γ-Fe ₂ O ₃	0.33	0.21	499.4	0.12	3.7
	α-Fe ₂ O ₃	0.41	0.41	471.1	0.47	9.8
	Ferrihydrite	0.26	0.70		0.28	73.1
MA2	γ-Fe ₂ O ₃	0.30	0.24	493.6	0.44	11.2
	α-Fe ₂ O ₃	0.40	0.35	473.5	0.21	15.7
	Ferrihydrite	0.31	0.72		0.27	69.7
MA4	γ-Fe ₂ O ₃	0.32	0.20	495.2	0.15	13.3
	α-Fe ₂ O ₃	0.41	0.37	474.4	0.31	17

IS: isomer shift, related to α-Fe; QS: electric quadrupole splitting; HWHM: half width at half-maximum. Ratio refers to the spectral area ratio.