Supplementary Material

Enhanced removal of methylene blue by $KMnO_4$-modified kitchen waste-derived lignin

Hao Hu[1, *], Kui Li[1], Yan-Jun Liu[2], Zheng-Hao Li[3], Yan-Kun Liu[1], Lian-Kun Dong [a], Kun Ding[1, **]

[1] Anhui Provincial Key Laboratory of Environmental Pollution Control and Resource Reuse, School of Environment and Energy Engineering, Anhui Jianzhu University, Hefei 230601, P.R. China

[2] Department of Ocean Science and Center for Ocean Research in Hong Kong and Macau, The Hong Kong University of Science and Technology, Hong Kong, 999077, China

[3] Department of Environmental Science and Engineering, University of Science and Technology of China, Hefei, 230026, China

*: Corresponding author

Dr. Hao Hu

Fax: +86 551-63828252

Email: huhao2019@ustc.edu.cn

**: Corresponding author

Prof. Kun Ding

Fax: +86 551- 63513056

Email: dkun@ahjzu.edu.cn

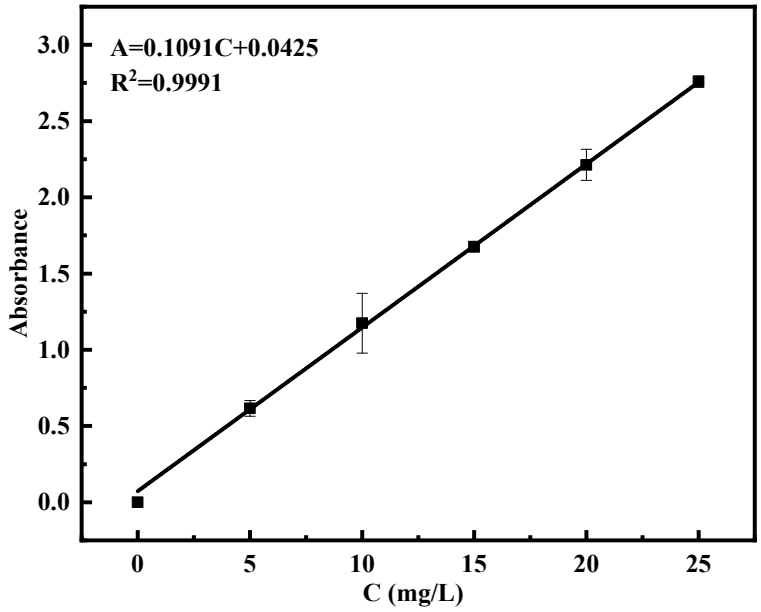

Fig. S1 Standard curve of methylene blue solution

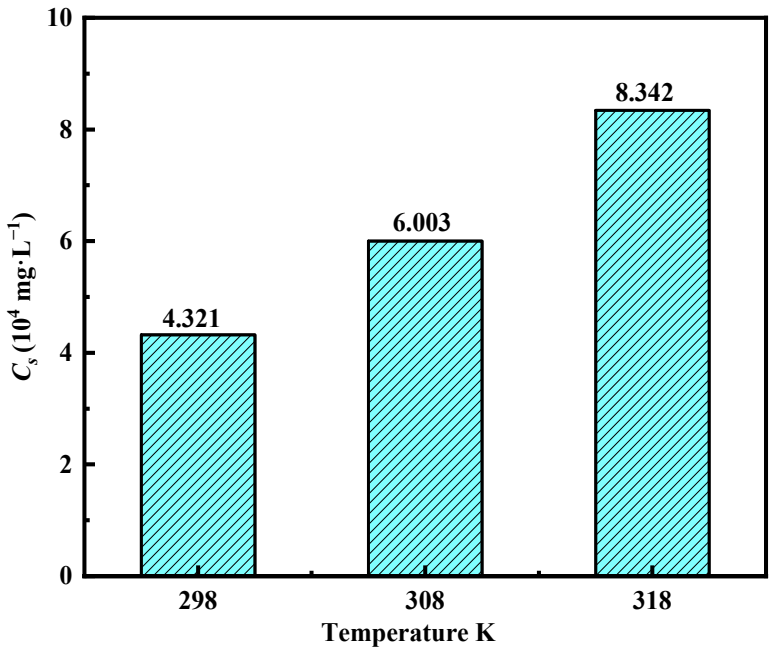

Fig. S2 Maximum dissolved mass concentration of MB (Salimi et al., 2019)

Table S1 Experimental conditions for removal of MB in dye wastewater.

Experimental group	MB concentration/ mg/L	Wastewater volume/ mL	Dosage of adsorbent /mg	pH of wastewater	Adsorbent time (Min)	Temperature of wastewater (K)
Dosage impact	100	50	25,50,100,150,200,250	9.0	360	298
pH impact	100	50	150	3.0,5.0,7.0,9.0,11.0,13.0	360	298
Time impact	50,100	50	150	9.0	5,30,60,90,120,180,240,300,360,420,480,540	298
Temperature impact	40~150	50	150	9.0	360	298,308,318

Reference

Salimi, A., and Roosta, A. 2019. Experimental solubility and thermodynamic aspects of methylene blue in different solvents. Thermochim. Acta 675,134-139. http://10.1016/j.tca.2019.03.024.