

Supplementary Information

Lignin condensation inhibition and antioxidant activity improvement in a reductive ternary DES fractionation microenvironment by thiourea dioxide self-decomposition

Xin Zhao^a, Yingying Yang^a, Jingyu Xu^a, Xing Wang^{a,b,*}, Yanzhu Guo^a, Chao Liu^c, Jinghui Zhou^a

^a Liaoning Key Lab of Lignocellulose Chemistry and BioMaterials, School of Light Industry and Chemical Engineering, Dalian Polytechnic University, Dalian 116034, PR China

^b Guangxi Key Laboratory of Clean Pulp & Papermaking and Pollution Control, College of Light Industry and Food Engineering, Guangxi University, Nanning 530004, PR China

^c Key Laboratory of Energy Thermal Conversion and Control of Ministry of Education, School of Energy and Environment, Southeast University, Nanjing 210096, PR China

*Corresponding author.

E-mail: wangxing@dlpu.edu.cn

#Authors contributed equally to the production of this paper.

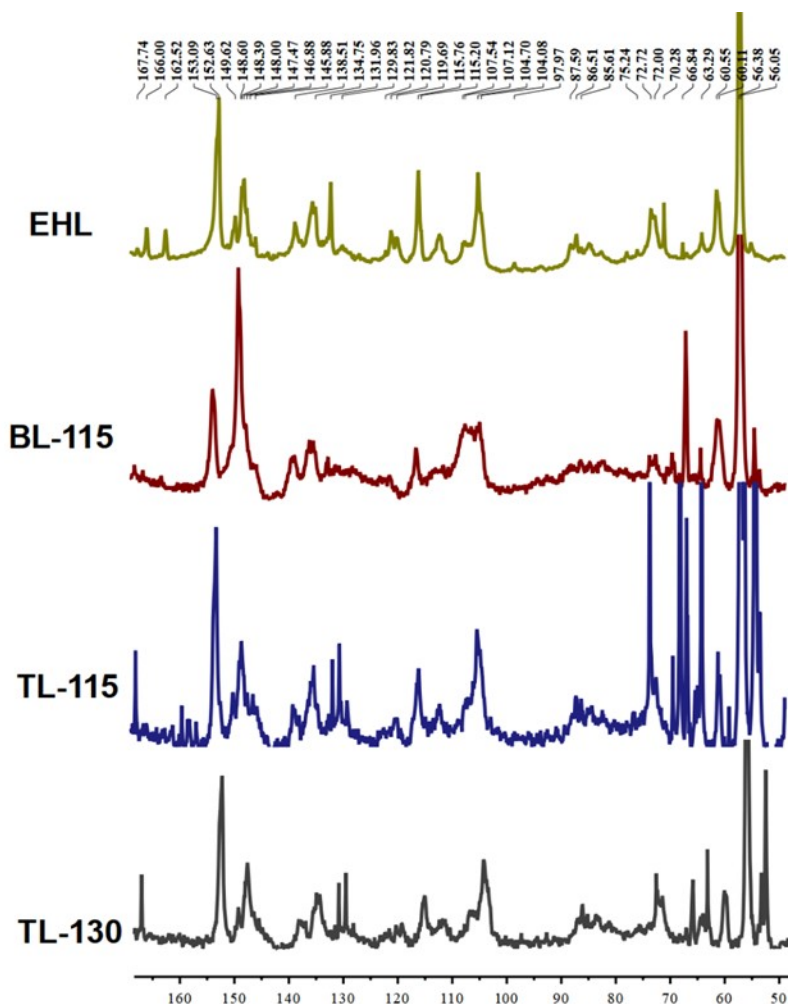


Figure S1. Quantitative ^{13}C NMR spectra of EHL, binary DES lignin and ternary DES lignin.

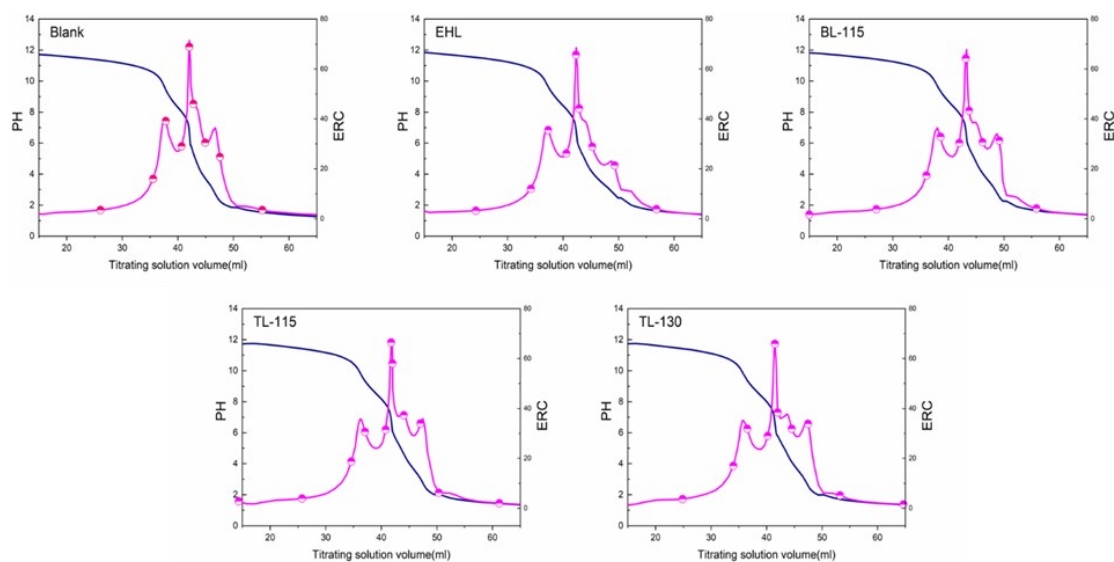


Figure S2. Aqueous potentiometric titration curves of lignin samples. Blue curves: PH; Magenta curves: level-one differential quotient of PH curve.

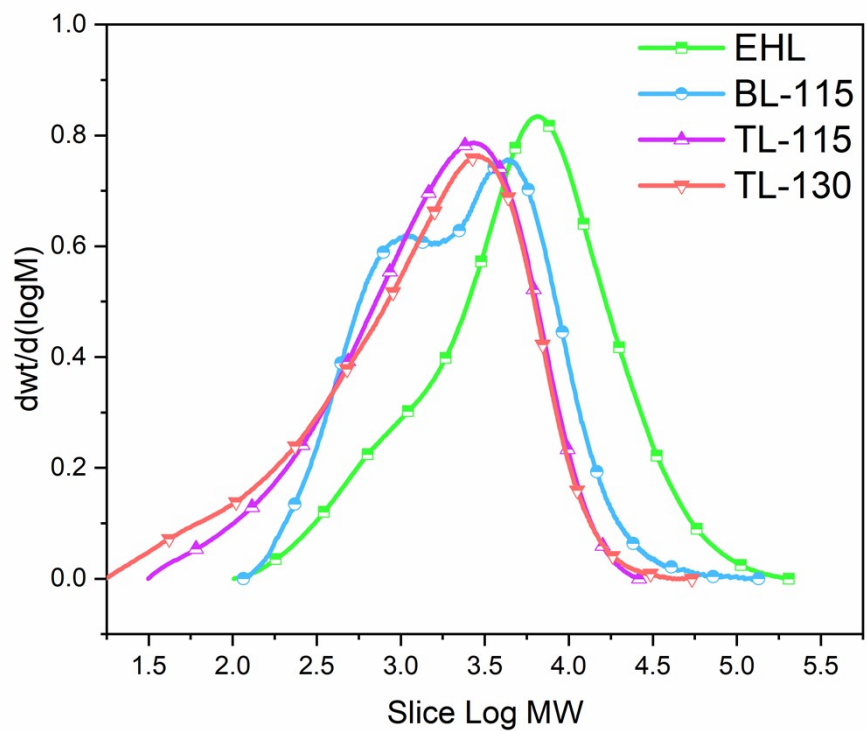


Figure S3. Molecular weights of extracted lignin fractions.