

Supporting information

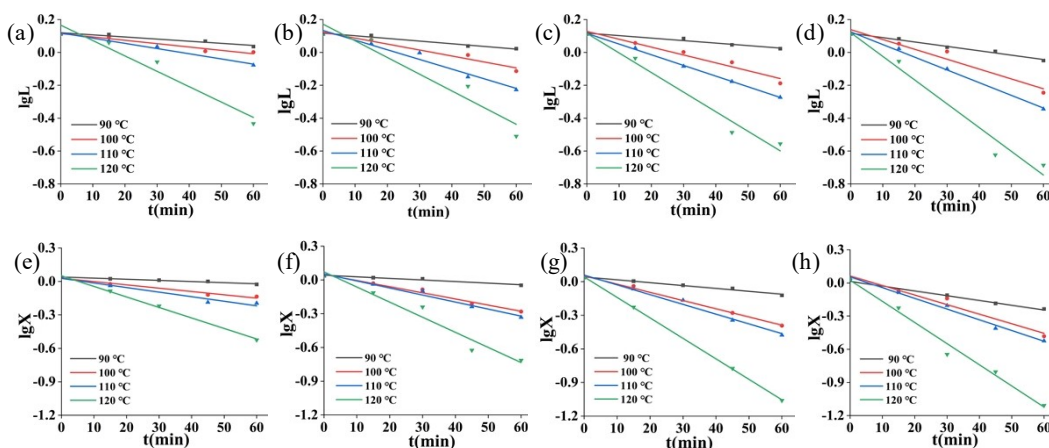


Figure S1 (a-d) $\lg L$ - t relationship at different temperatures at 0.8-1.4% acid concentration. (e-h) $\lg X$ - t relationship at different temperatures at 0.8-1.4% acid concentration

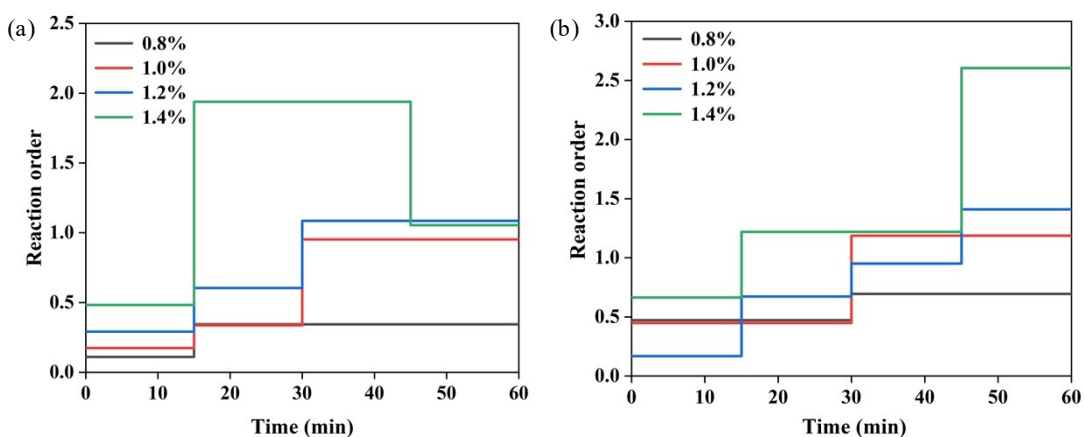


Figure S2 (a) The reaction order of delignification rate by acid concentration at different temperatures; (b) The reaction order of xylan removal by acid concentration at different temperatures

Table S1 Lignin and xylan dissolution fitting parameters to Eq. (6) and (8)

Kinetic parameter	Delignification	Xylan removal
α	19.00	22.50
β	0.57	1.58
E (KJ/mol)	68.00	77.50
f	0.14	0.03
θ	0.03	0.26

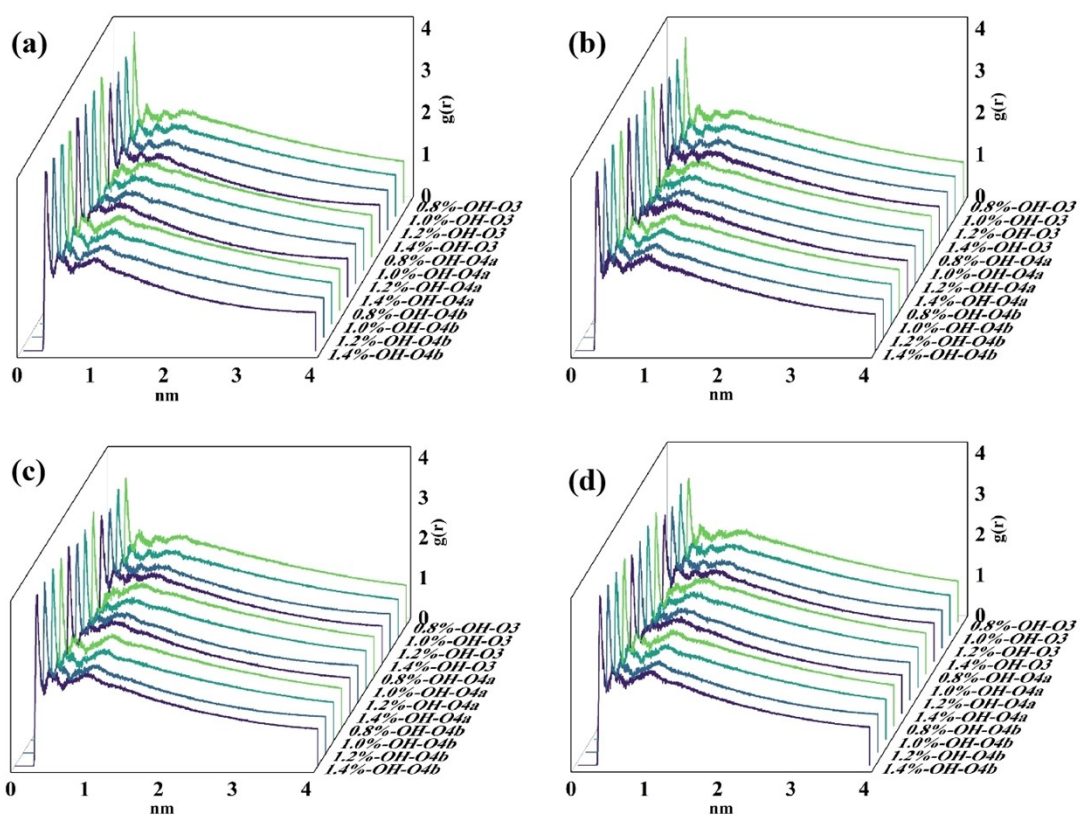


Figure S3 Diagram of the radial distribution function of lignin and phenoxyethanol under (a) 90°C, (b) 100°C; (c) 110°C; (d) 120°C.