**Fig. S1** Gas chromatogram of EtOH (15 mM acid and 65% EtOH) and 1,4-BDO (15 mM acid and 65% 1,4-BDO) dissolved lignin.
Fig. S2 2D HSQC NMR spectra from pretreated lignin. Abbreviation was depicted in Fig. 2.
Fig. S3 Hydroxyl groups of soluble lignin at different pretreatment severities using EtOH and 1,4-BDO