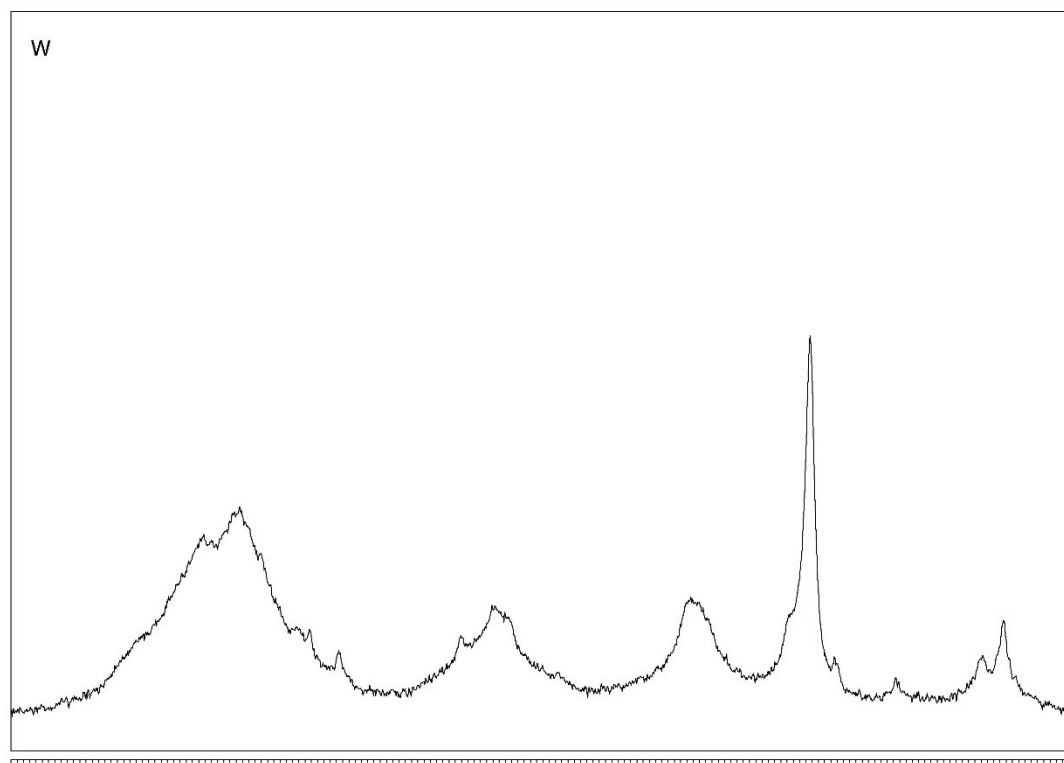
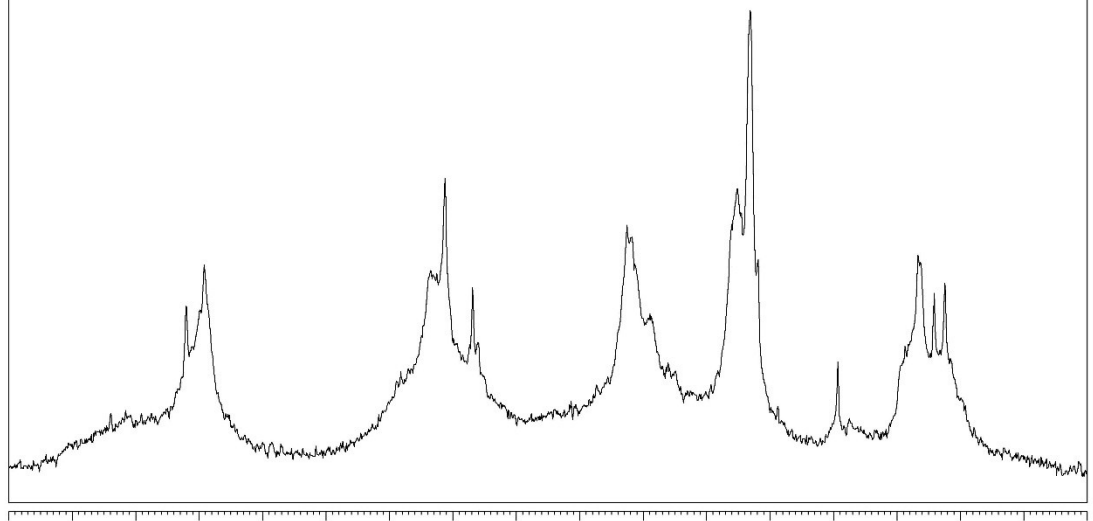


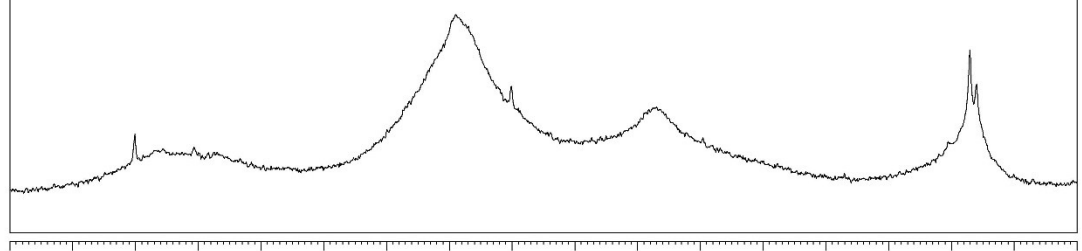
**Figure S1**  $^{31}\text{P}$ -NMR analysis spectra of lignin isolated from controls and DES/*p*-TsOH treated biomass. (N-hydroxy-5-norbornene-2,3-dicarboximide as internal standard, 150-133 ppm). Abbreviations W: Willow; C: Corn stover; P: *p*-toluensulfonate; D: betaine:lactic acid deep eutectic solvent. Numbers denote temperature of applied treatment.



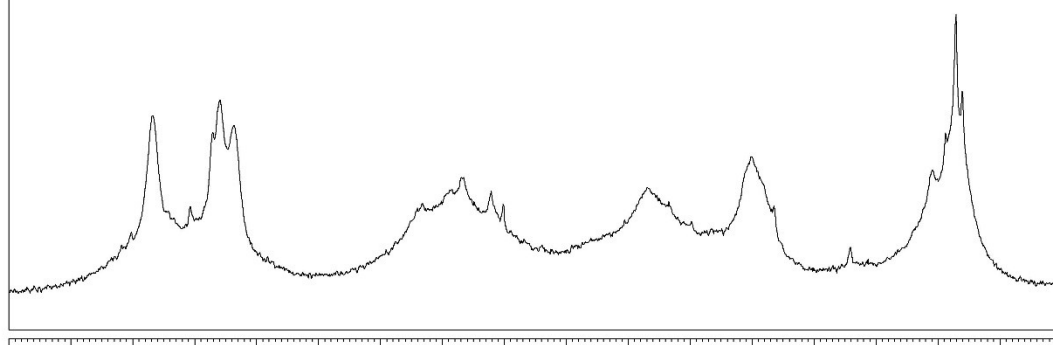
C



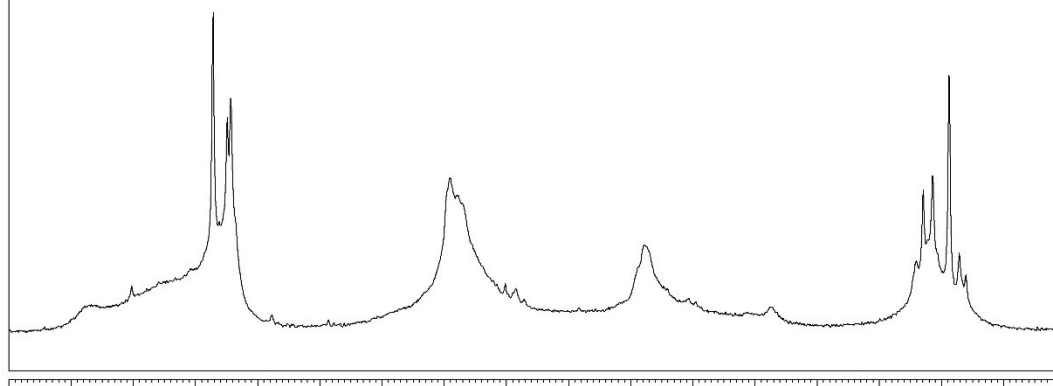
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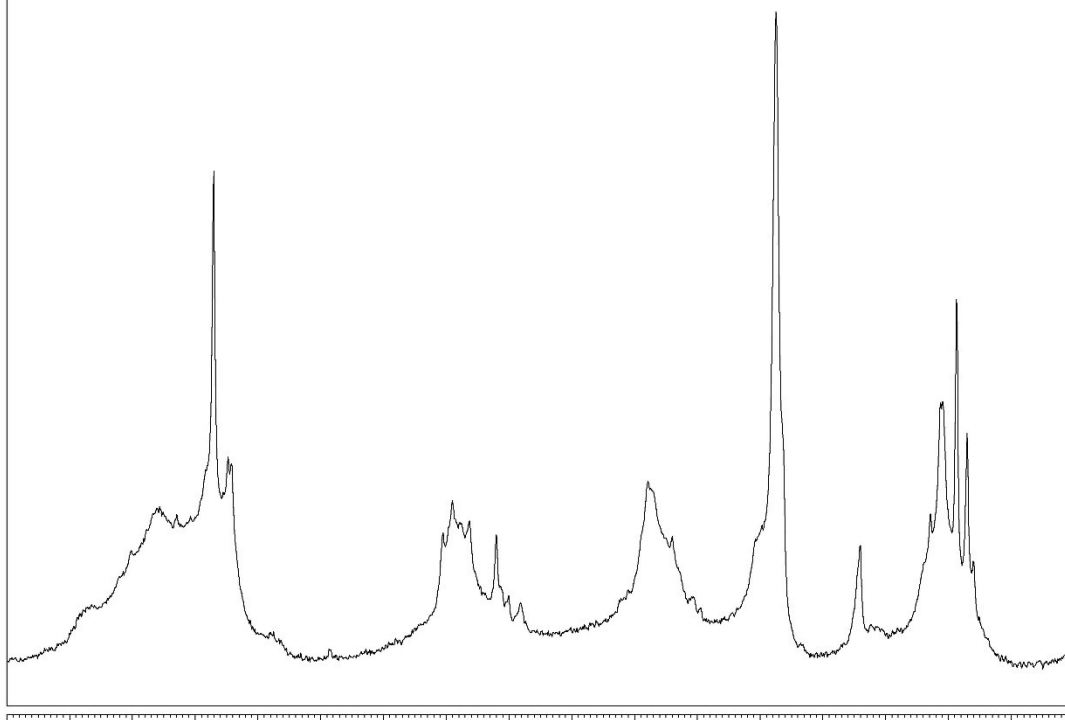
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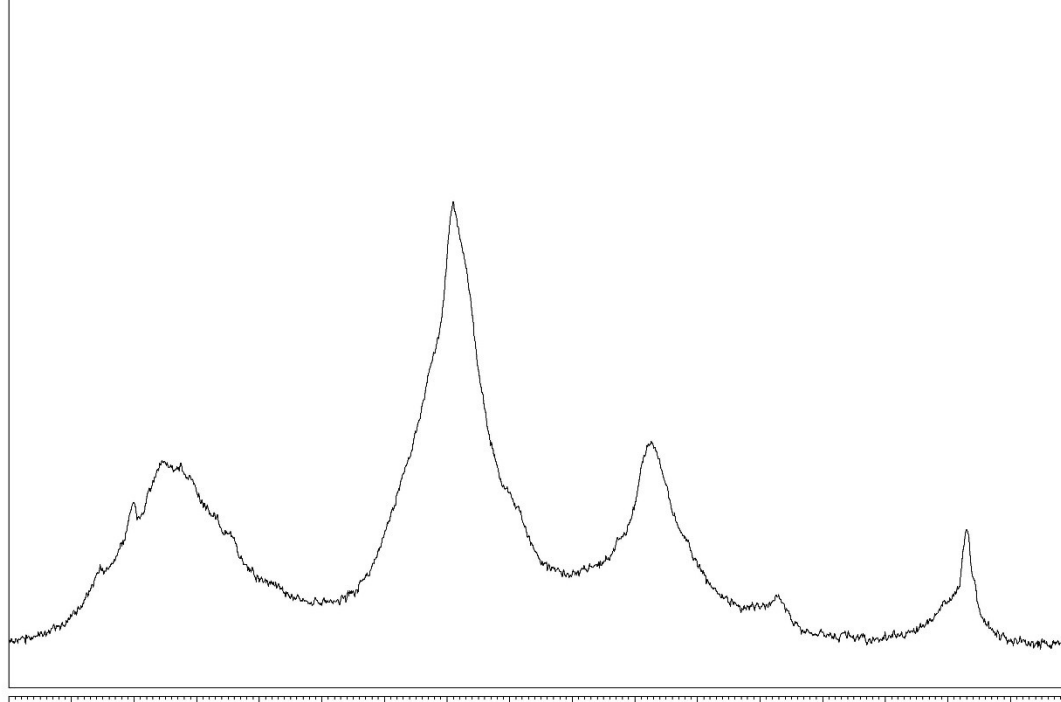
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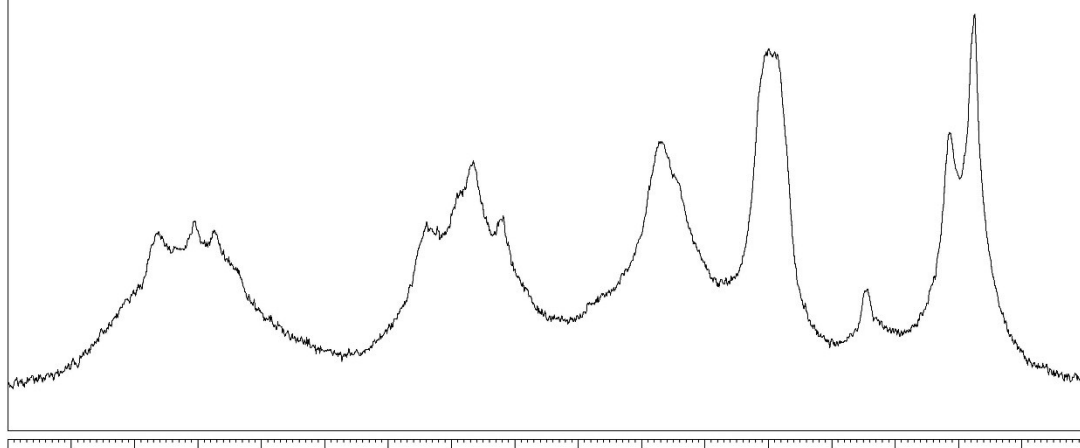
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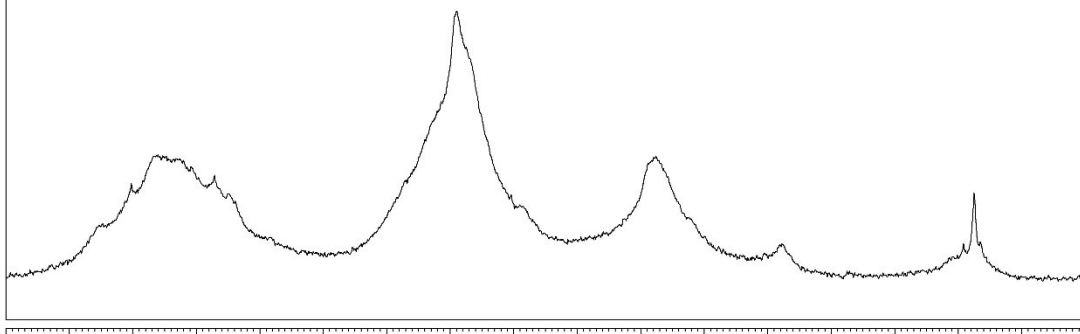
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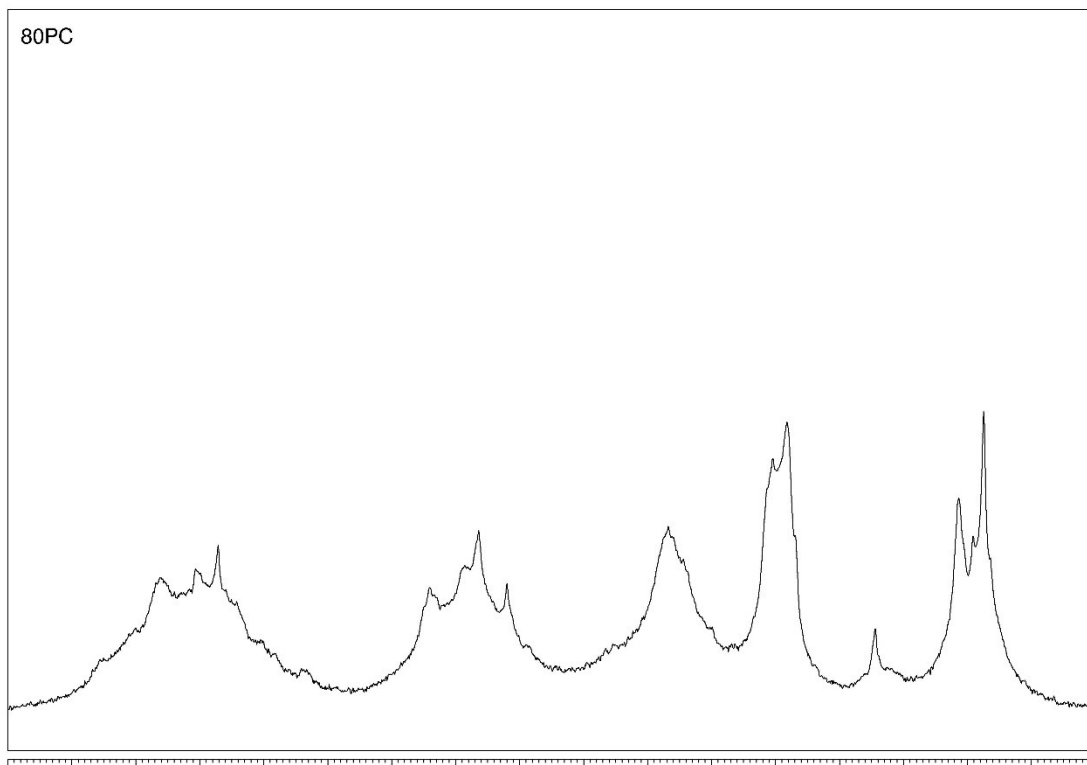
110PC



80PW



80PC



50PW

