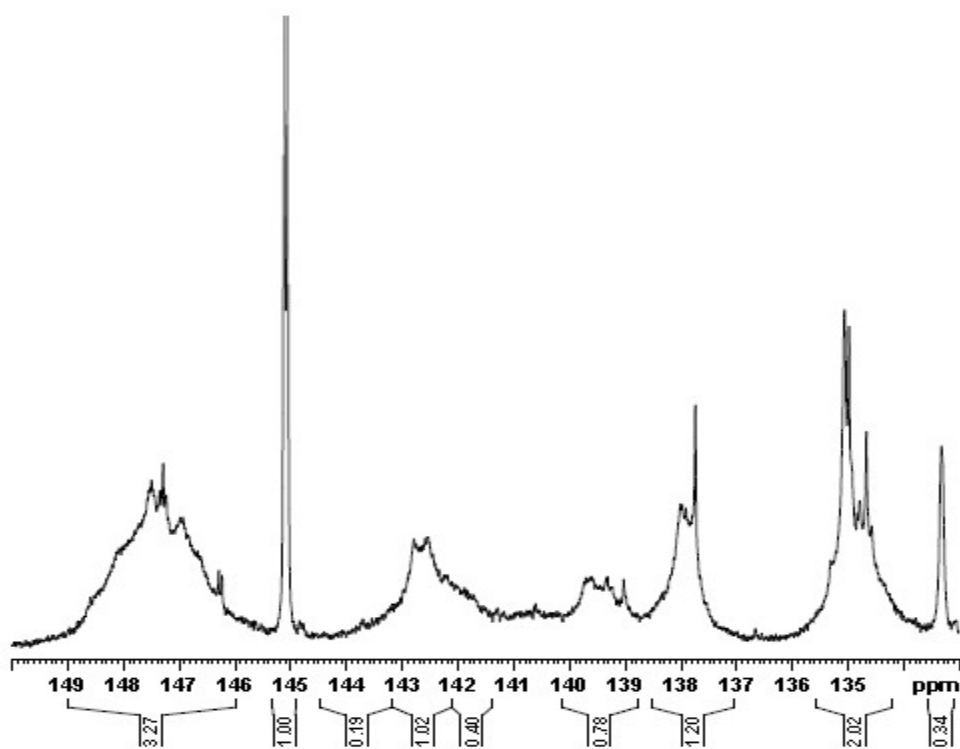


## Lignin-based polyurethane film reinforced with cellulose nanocrystals

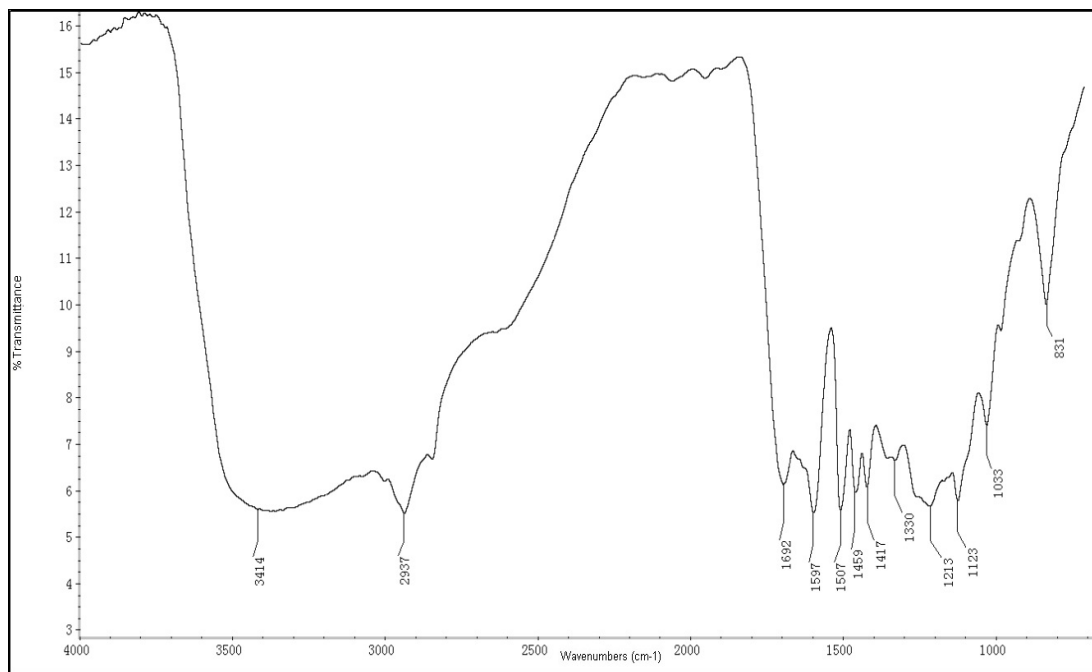
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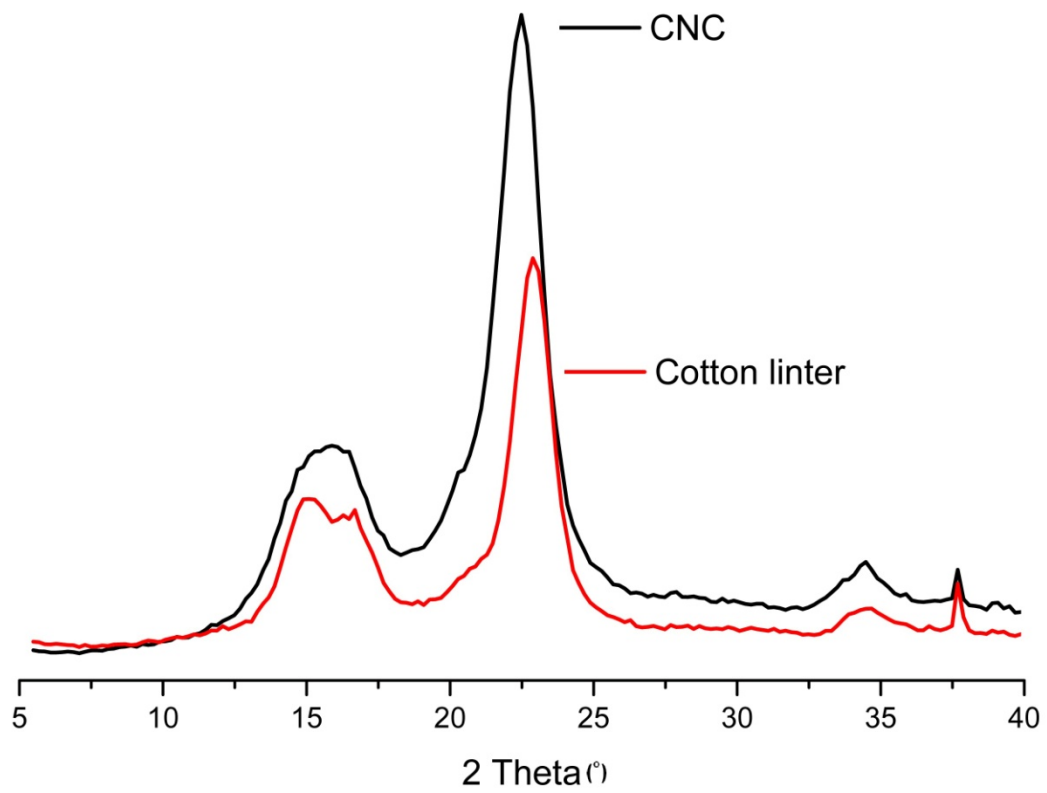
<sup>b</sup>State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Guangzhou 510640, China



**Figure S1.** <sup>31</sup>P NMR spectra of the lignin



**Figure S2.** FT-IR spectra of the lignin



**Figure S3.** XRD pattern of cotton linter and CNC