

## Exposition of Thermochemical Valorization of Lignin Concerning Biochemical and Bio-aromatics Production

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### ABSTRACT

Lignin is an amorphous heteropolymer consisting of three phenyl propane units, such as hydroxyphenylpropane, guaiacylpropane, and syringylpropane. The complexity in its structure is due to the presence of many ether linkages, hydroxyl, and methoxy groups. The macromolecule of lignin contains three phenolic monomers including p-coumaryl, coniferyl, and sinapyl alcohol. Research accompanying lignin valorization from lignocellulosic biomass suggests many possible pathways consisting of heat and power generation as well as top value material and chemical production. Since the end of the nineteenth-century delignification of lignocellulose shows better results in gaining access to the cellulosic component by removing the recalcitrance activities in the pulp and paper industry. That means a huge quantity of lignin is going into the vein since then. This study focuses on the possible thermochemical conversion of lignin into top value materials and chemicals to establish bio-economy as well as resolve environmental conflicts of using fossil-derived fuel and chemicals.

**Keywords:** Lignin, Valorization, Biochemicals, Bio-aromatics, Bio-economy

