

Supplementary File

Design of controlled release system for paracetamol based on modified lignin

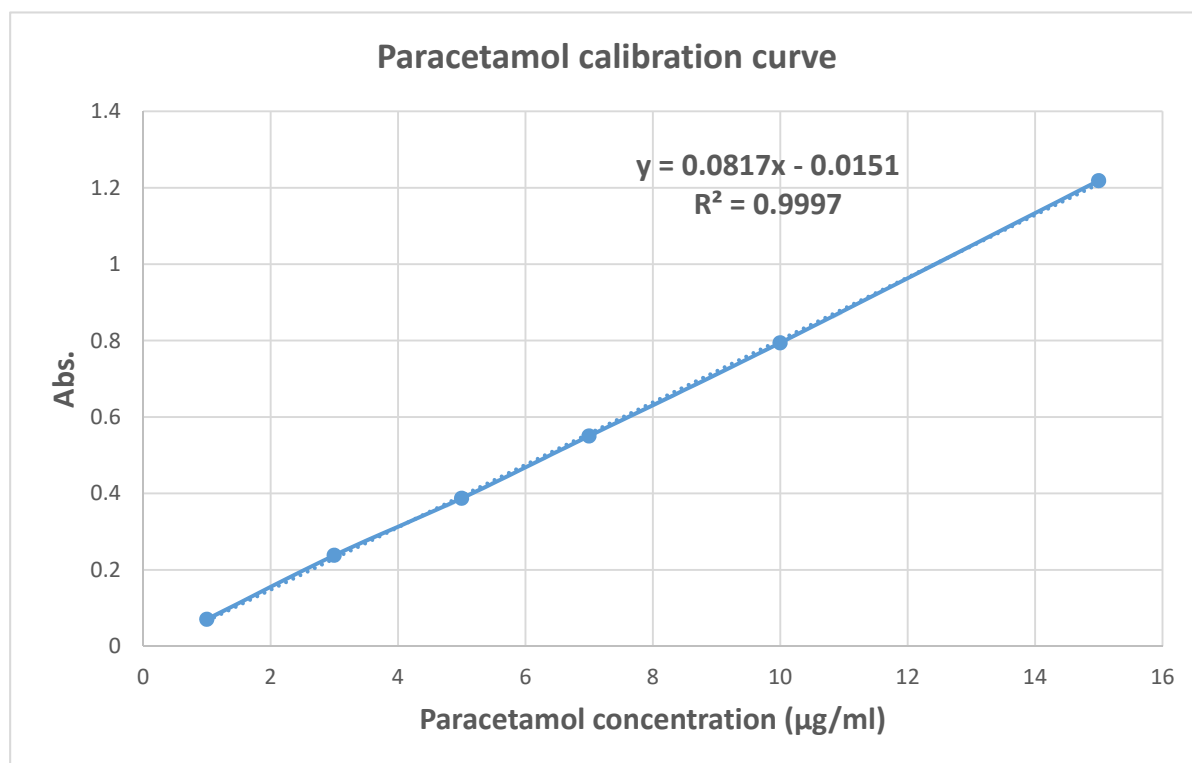
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Calibration curve

Explanation of lignin Modification Mechanism

In the first step the lone pair of nitrogen in DMAP as nucleophile attacks at the carbonyl group of succinic anhydrous and ring opening occurs. Afterwards hydroxyl groups of lignin react with the intermediate, which was formed in the first step. Following this there is a proton transfer between two oxygen atoms (neutralization) and in the last step carbonyl (C=O) forms with the DMAP acting as a cleaving group, resulting in a carboxylated lignin