

Tab 2

Title of paper in Times New Roman of font size 14 in bold with first letter of the first word of the title in capital letter

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Abstract:

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***In-silico* Analysis of the catabolic strength of hydrolytic enzymes
of
Ligno cellulose conversion to Biofuels**

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Abstract

India generates an estimated 450 to 500 million tonnes of biomass waste annually, primarily from agricultural and agro-industrial sources. These biomass wastes are a rich source of lignocellulose. The lignin from lignocellulose can be degraded to carbohydrate polymers like cellulose and hemicellulose using lignin-degrading enzymes. These carbohydrates can be converted to sugars by enzymatic reactions. The sugars thus obtained can be further subjected to anaerobic fermentation and can be converted to biofuels like ethanol. This bioconversion not only helps to sustainably manage biomass but also serves as an excellent source of Biofuel generation. The present study aims to analyze the catalytic strength of different hydrolytic enzymes of lignocellulose in silico using the molecular docking analysis CB-Dock (Cavity-Detection guided blind Docking). The binding efficiency of lignin digestive enzymes β -1,4-Glucanase, β -D-Glucosidase, and Laccase from different sources with cellulose and lignin was studied in order to identify the best enzyme and its source, which could help in lignin conversion to biofuels.

Key words: Biomass; Ligno cellulose; β -1,4-Glucanase; β -D-Glucosidase; Laccase; CB-Dock