A study on Effect of sonication on kinetic and thermodynamic parameters on Enhancement of Zytex cellulase enzyme activity.

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Abstract

Zytex is a commercial textile cellulase enzyme**,** used for hydrolysis of cellulose for reducing sugars. Generally Sonication is used for deactivating the enzyme, but some studies proved that sonication can also leads to enhancement of enzyme activity. The efficiency of enhanced enzyme activity was studied using kinetic and thermodynamic parameters by Arrhenius equation, and Eyring transition state theory, Michaelis-Menten equation. The effect of sonication operating conditions has also a great influence in enhancing the activity of zytex cellulase enzyme. The kinetic and thermodynamic parameters are increased for zytex enzyme operated under sonication, as compared to the zytex enzyme without sonication, and also with commercial cellulase enzyme.

Key words: Zytex enzyme, commercial cellulase enzyme, kinetic and thermodynamic parameters, Intensification of enzyme activity, Ultra sonic horn.