

THE INFLUENCE OF ULTRASOUND ON THE REACTION OF IMMOBILIZED ENZYMES

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The influence of high frequency ultrasound on the reaction rate of immobilized enzymes was investigated.

The experiments were carried out in a special cuvette in dependence on substrate flow rate, carrier size, and sound intensity. The substances used were α -amylase and glucoamylase, bound to a porous polystyrene carrier and as substrates starch and maltose, resp.

Under best conditions the increase of the product concentration due to ultrasound amounts to 250.%.

The effect will be discussed in terms of the temperature enhancement within the carrier matrix and the stimulation of the diffusion around the carrier spheres by the ultrasonic action.