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Non-Covalent Immobilization of Quince (*Cydonia Oblonga*) Polyphenol Oxidase

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Abstract: A partially purified polyphenol oxidase from quince (*Cydonia oblonga*) was immobilized on bentonite by simple adsorption at pH 6.8. The properties of the immobilized enzyme were compared to those of the free enzyme. Optimum pH and temperature were determined to be 9.0 and 45°C, respectively, showing the alteration of pH and temperature profiles by immobilization. No drastic change was observed in the K_m value after immobilization. Catechol, L-DOPA, p-cresole and pyrogallol were tested as substrates. Thermal and storage stability and reusability experiments were carried out. It was observed that the immobilized enzyme had storage stability for a period of one year but had no reusability in the batch process.

Key Words: Bentonite, polyphenol oxidase, purification, non-covalent immobilization, characterization

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