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PEG-SODIUM CITRATE AQUEOUS TWO-PHASE SYSTEMS TO *IN SITU* RECOVERY OF PROTEASE FROM *Aspergillus tamarii* URM4634 BY EXTRACTIVE FERMENTATION

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Abstract

This paper investigates the influence of polyethylene glycol (PEG) molar mass, concentrations of PEG and sodium citrate, and pH, *in situ* recovery on protease produced by *Aspergillus tamarii* URM4634. A biochemical characterization study was conducted, and thermodynamic parameters were determined in the test which used 8000 (g/mol) PEG molar mass, PEG concentration 24% (w/w), sodium citrate concentration 20% (w/w) and pH 6.0 with partition coefficient of 35.0, activity yield of 98.4 and concentration factor of 2.14. This PEG-phase had an optimum pH and temperature of 8.0 and 60°C, respectively, being inhibited by EDTA (83.3%) which indicated that this's a metalloprotease. The thermodynamic studies of the protease had an activation energy of 19.01 kJ/mol and a deactivation energy of 29.6 kJ/mol. It was in this range that the following estimates could be made: enthalpy of ΔH^*_d 29.7 kJ/mol, entropy of

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