Evaluation of the robustness of the enzymatic hydrolysis in batch and continuous mode by a central composite design

Authors
N Abdi, O Kitous, H Grib, M Drouiche, H Lounici, N Drouiche, N Mameri

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Description
The main purpose of this work is to study the ability of the enzymatic reaction. For the performance of the experiment, it is desirable to control variations so that they are minimized to the maximum extend and therefore an optimum operating point can be maintained. To achieve this target, the central composite design takes into account all interaction effects that may be useful for creating a mathematical model in agreement with the validity criteria. The model showed to be more suitable for the saccharification experiments in batch mode than in continuous mode. In batch mode, a correlation coefficient close to unity (R^2 = .98) was obtained. Moreover, the resulting mathematical model was satisfactory in accordance with the validation criteria. For continuous mode, the coefficient value obtained was R^2 = .83 indicating that the model to study the ability of the enzymatic reaction was inferior than the batch mode …