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Optimization of Fed Batch Production of *E.coli* K-12 L-Asparaginase by Taguchi Orthogonal Array

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Abstract : L-Asparaginase is a potent anti-leukemic enzyme, as well as having potential application in food industry for the prevention of acrylamide formation. L-Asparaginase from *E.coli* K-12 is approved globally to use as anti-leukemic drug. Present study aims towards the development of fed-batch strategy for the enhanced production of L-Asparaginase. Process was optimized by using Taguchi orthogonal array based design of experiment (DOE) methodology. After the optimization of six factors viz. Glucose, Tryptone, Yeast extract, K_2HPO_4, L-asparagine and Hexane at four different level, there was 1.8 fold increase in enzyme yield.
Key words: L-Asparaginase, Taguchi Design of Experiment, DOE, Acrylamide, *E.coli* K-12.

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