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# Optimization of fermentation medium for a newly isolated yeast strain (*Zygosaccharomyces rouxii* JM-C46) and evaluation of factors affecting biosynthesis of D-arabitol

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## Abstract

A newly isolated yeast strain, namely *Zygosaccharomyces rouxii* JM-C46, was reported to be promising for enhanced D-arabitol production from glucose. In this study, further efforts were made to optimize fermentation conditions for this strain through one-factor-at-a-time strategy considering seven important factors of shake flask fermentation. Subsequently, composition of fermentation medium was optimized using Box-Behnken design (BBD) of response surface methodology (RSM) including three major nitrogen providing ingredients, namely yeast extract, $(NH_4)_2SO_4$ and peptone. Maximum D-arabitol concentration produced in one-factor-at-a-time experiments was found to be 72.69 g/L under the optimum conditions consisting of 200 g/L

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