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Short Communication

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## Efficient biocatalytic synthesis of nicotinic acid by recombinant nitrilase via high density culture

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### Abstract:

The constitutively expression system for *P. putida* nitrilase was firstly constructed to improve the nicotinic acid production and reduce the production costs. High density culture strategy was employed to enhance the biomass and nitrilase production of recombinant strain. The total nitrilase activity reached up to 654 U·mL<sup>-1</sup> without the induction. 541 g·L<sup>-1</sup> nicotinic acid was accumulated via fed batch mode of substrate feeding through 290 min of conversion.

### Keywords:

Biocatalysis; Nitrilase; Nicotinic acid; High density culture; Fed-batch conversion

### 1. Introduction

Nicotinic acid, also known as Vitamin B3, Vitamin PP or niacin, has been widely used in the production of feedstuff additives and pharmaceutical intermediates(Gong et al., 2012b; Jin et al., 2013). Conventionally, nicotinic acid

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