

5'-Ribonucleotides production using 5'-phosphodiesterase from spent malt roots

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Abstract

The present work aims to produce a composition of 5'-ribonucleotides using spent brewer's yeast as cheap source of RNA and barley malt rootlets as cheap source of 5'-phosphodiesterase (5'-PDE). This strategy is very promising because both are residues of the brewing process and are closely linked in a cycle that until now is not yet commercially exploited due to lack of studies. The results of the present work showed that extraction of 5'-PDE was mainly influenced by the fineness of the rootlets and amount of extraction solvent (water). The main molecules formed during RNA hydrolysis were 5'-ribonucleotides, which represented 85.86% of the total hydrolyzed molecules. Finally, the results of the approach here proposed can generate a new perspective for the brewing industry in relation to the management of its wastes in order to generate from them products of high added value and with a wide range of applications.

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