

Biotransformation of Monoterpenes by Whole Cells of *Eleven Praxelis clematidea*-Derived Endophytic Fungi

Authors : Daomao Yang, Qizhi Wang

Abstract : Monoterpenoids are mainly found in plant essential oils and they are ideal substrates for biotransformation into oxygen-containing derivatives with important commercial value due to their low price and simple structure. In this paper, eleven strains of endophytic fungi from *Praxelis clematidea* were used as test strains to conduct the whole cell biotransformation of the monoterpenoids: (+)-limonene, (-)-limonene and myrcene. The fungi were inoculated in 50 ml Sabouraud medium and incubated at 30 °C with the agitation of 150 r/min for 6 d, and then 0.5% (v/v) substrates were added into the medium and biotransformed for further 3 d. Afterwards the cultures were filtered, and extracted using equal volume of ethyl acetate. The metabolites were analyzed by GC-MS technique with NIST database. The Total Ion Chromatogram of the extractions from the eleven strains showed that the main product of (+)- and (-)-limonene biotransformation was limonene-1,2-diol, while it is limonene and linalool oxide for biotransformation of myrcene. This work will help screen the microorganisms to biotransform the monoterpenes.

Keywords : endophytic fungi, (+)-limonene, (-)-limonene, myrcene

Conference Title : ICCCP 2021 : International Conference on Canned Citrus Processing

Conference Location : Melbourne, Australia

Conference Dates : February 01-02, 2021