

# Enzymatic Biotransformations of Peritan-Na by Immobilized Fungal Mycelium Fragments of *Trametes versicolor*

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## ABSTRACT

The mycelium of *Trametes versicolor* after 5 d growing in submerged cultures was homogenized and the pellets containing cell membranes were immobilized on alkylamine glass beads. The immobilized mycelial fragments were able to modify the molecular weight of Peritan-Na after only 4 h of incubation. Besides this phenomenon, the release of six free phenolic compounds was detected. Among these there were, for example, vanillin derivatives, syringic acid, and *p*-hydroxybenzaldehyde. This release was dependent upon pH, temperature, and the reaction time of the supposed enzymatic mechanism of the reaction. In short term (up to 6 h) experiments, the complex polymer of Peritan-Na might be transformed into molecules approximately closer to monomers of lignin as well as new lignin-like forms. According to our observations, the biotransformation of Peritan-Na follows a series of enzymatic reactions. It is supposed that enzymes necessary for these reactions are present in immobilized cell membrane fragments of *Trametes versicolor*.