

## Nanostructured surfaces

### The effect of structural differences of nanostructures to enzymatic polymerization of glycolic and lactic acid

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In recent years, there has been a tremendous interest in the use of conducting polymers in various applications because of attractive electrical, electrochemical, and optical properties as well as their good stability [1,2]. In order to avoid problems, which occur during electrochemical and chemical polymer synthesis, an excellent alternative method is enzyme catalysed polymerization [2,3]. The enzyme acts as a catalyst which does not require a highly acidic medium and strong oxidizing agent. In this study we took an advantage of the enzymatic polymerization of glycolic and lactic acid in the presence of glucose oxidase, together with copper nanostructures. The nanostructures were evaluated in the point of structural differences with their catalytic activities towards glucose oxidation. The present study demonstrates that structural differences of metal nanostructures are also important as much as metal types for enzymatic polymer formation which might be successfully applied with the immobilization of other enzymes.

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