

### Application of biofuel cell to thin film enzyme electrode

김동섭, 이주훈, 이수권, 김형렬, 김승욱<sup>†</sup>

고려대학교

(kimsu@korea.ac.kr<sup>†</sup>)

The enzymatic fuel cell (EFC) was proposed as an attractive candidate for power source and implantable medical devices. The intended application of bio fuel cell as one of small scale power sources is tightly associated with challenging issues, related to the miniaturization of such system. In the study, the electrochemical biosensor was developed with a thin film structure. The developed EFC with film type was designed containing the enzyme immobilization process on to gold (Au) electrodes. The main point of this research is to investigate the effect of different designs of the film type electrodes, on the power generation, the open circuit output potential and power density. Also, the film type of developed EFC was evaluated using redox reaction analysis by various cyclic voltammetry data in electrochemical instrumentation.