

Electrochemical determination of dopamine and ascorbic acid using a 3-D Nanoporous Gold Thin Film

표수현, Waleed Ahmed El-Said, 이진호, 최정우, 오병근*
서강대학교
(bkoh@sogang.ac.kr*)

We fabricated a three dimensional nanoporous gold thin film(NPGF) onto a Au substrate using a simply and rapid electrochemical deposition method. The NPGF electrode analysis by scanning electron microscope and reveals the formation of nanopores, approximately 30nm in diameter and 150nm thick. DPV(differential pulse voltammetry) was measured for the determination of dopamine in the varying concentration(0.1 μ M~40 μ M) using a NPGF in the presence of ascorbic acid. DPV measurements of mixture of dopamine, ascorbic acid and uric acid. The high sensitivity feature of NPGF is expected that apply for real sample biosensor application. Acknowledgments : This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (2010-0015488) and by the Original Technology Research Program for Brain Science through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (2009-0093907).