

## Cobalt Tetraphenylporphine (CoTPP) Film as Glucose and Hydrogen Peroxide Sensors after Immobilizing Glucose Oxidase (GOx)

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(Received July 8, 2006; accepted August 28, 2006)

**Key words:** CoTPP, glucose sensor, plasma polymer, thin film

We developed a cobalt tetraphenylporphine (CoTPP) thin film by vacuum evaporation and plasma polymerization and checked its utility as a glucose and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) sensor. The sensing ability was realized by immobilizing glucose oxidase (GOx) enzyme on the surface of the plasma-polymerized CoTPP film. The plasma-polymerized film acts as a protective layer to the vacuum-evaporated CoTPP film. Cyclic voltammetry has been used to characterize the sensing behavior of the combination of indium tin oxide (ITO-acting as an electrode), CoTPP film (both vacuum evaporated and plasma polymerized) and the GOx layer. Our results suggest that we can use the ITO, CoTPP and GOx combination as a very good glucose and H<sub>2</sub>O<sub>2</sub> sensor.

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