

## **Voltammetry of a Benzoquinone-Hydroquinone Redox Couple at Electrodes Modified with a Polyvinylpyridine Film Doped with Cobalt Phthalocyanine**

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### **Abstract**

The electrochemical properties of a glassy-carbon electrode coated with a polyvinylpyridine film doped with incorporated cobalt phthalocyanine were studied in a reaction involving a benzoquinone-hydroquinone redox couple. It was found that poly-(2-vinylpyridine) film applied to the electrode and cobalt phthalocyanine deposited onto it or incorporated in the polymeric film exhibited electrocatalytic activity on the oxidation of hydroquinone. Conditions were selected for obtaining a polyvinylpyridine film doped with cobalt phthalocyanine on the electrode surface providing a maximum catalytic effect. The current of the hydroquinone oxidation peak and the current of the reverse benzoquinone reduction peak at the chemically modified electrode were linear functions of their concentrations in the range from  $1 \times 10^{-6}$  to  $1 \times 10^{-3}$  M.

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