

## Adsorptive stripping voltammetric behaviour of hypoxanthine

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### Abstract

The effective adsorption of hypoxanthine at a hanging mercury drop electrode (HMDE) has been studied by using ac and cyclic voltammetry (CV). It was found that the complexation of hypoxanthine molecules enhances the stacking interactions which might facilitate the formation of a perpendicularly stacked layer of Cu(II)–hypoxanthine complex on the electrode surface. A rapid and sensitive controlled adsorptive accumulation of copper complexes with hypoxanthine on the HMDE provides the basis for the direct stripping measurement of this compound on the subnanomolar concentration level. The height of the chelate peak is shown to be proportional to the hypoxanthine concentration. Experimental and instrumental parameters for the quantitative determination are optimized. Under optimum conditions the calibration curve was linear and the detection limit was  $1 \times 10^{-8}$  M ( $1.36 \mu\text{g l}^{-1}$ ), where in the presence of Cu(II) the method is developed and the detection limit is lowered to  $4 \times 10^{-10}$  M ( $0.05 \mu\text{g l}^{-1}$ ). The interferences of several organic compounds are described.

*Keywords:* Stripping voltammetry; Hypoxanthine

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