

## Determination of some catecholamines by coulometric titration and cyclic voltammetry

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### Abstract

Catecholamines quantitatively react with electrogenerated halogens. The reactions of adrenaline with bromine and iodine involve three electrons, and the reactions of dopamine with chlorine and bromine involve two electrons. Possible reaction schemes are proposed. Adrenaline and dopamine are reversibly oxidized at graphite and glassy-carbon electrodes in acid media at 0.7 and 0.58 V, respectively, to form corresponding quinones. Determination limits and linearity ranges of oxidation current were found as functions of catecholamine concentrations. The relative standard deviation was 1-4% for model solutions. A procedure was proposed for the electrochemical determination of adrenaline and dopamine in pharmaceuticals. © 2005 Pleiades Publishing, Inc.

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