Cathodic Stripping Differential pulse Voltammetric Determination of Poly(8-Hydroxyquinoline) Matrix

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Abstract:

ABSTRACT: Cathodic stripping differential pulse voltammetric (CSDPV) procedure was successfully used for the determination of poly(8-hydroxyquinoline) (PHQ) matrix. The linearity range for the determination of PHQ in the presence (1 mmolL\(^{-1}\)) of copper (Cu(II)) ion was found to be more sensitive ten times of magnitude higher than the determination of PHQ alone. The lower detection limit was found to be as low as 10 nmolL\(^{-1}\). While, in the case for the determination of Cu(II) ion as a PHQ/Cu(II) chelate, the linearity range is (0 \(\sim\) 4 μmolL\(^{-1}\)). The determination of PHQ chain and/or Cu(II) ion was successfully applied in the presence of variety of anions, cations and in an insulating poly(vinyl alcohol) (PVA) matrix. The PVP matrix enhanced the absorbability at the mercury electrode surface which caused increased in the peak high of the chelated Cu(II)

Keywords:

Poly(8-Hydroxyquinoline), copper (II) ion, anions, cations, CSVD, PVA, PVP, determination

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