

Continuous potentiometric sensor for electrogenerated mediator in solution: rationalization by the RDE and flow cell methods

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Very recently, an in-situ determination of electron mediators' quantification was developed by potentiometric sensor method. Here in, a rationalization of potentiometric sensor by RDE (rotating disc electrode) and flow cell methods were optimized. First, electrochemical generation of $[\text{Co}(\text{I})(\text{CN})_5]^{4-}$ in 10 M KOH solution was done by Nafion324 membrane divided electrochemical cell. The electrogenerated solution monitored by current and potential using RDE and flow cell with different RPM (rotation per minute) and flow rate by cyclic voltammetry (CV) method. By comparing the peak potential and peak current change, validation of a suitable method was derived for potentiometric sensor in determination of electrogenerated electron mediator in solution.

Key words: RDE, In-situ flow cell, potentiometric sensor, electron mediator monitoring.