**STUDY OF THE POTENTIAL SWEEPS AND ITS INFLUENCE ON THE DIFFUSION CURRENT IN THE MANUAL STAIRCASE VOLTAMMETRY**

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***Abstract:***

Linear voltammetry can be developed with manual potentiostats, where the potential sweep is made in a staircase form using a potentiometer. In manual potentiostats the voltage scan rate is not controlled, and the behavior of this parameter and its influence on the voltammetric response have not been widely reported. In this work, a study of the potential sweeps and its influence on the diffusion current in the manual staircase voltammetry was done employing a minimal instrumentation micropotentiostat. The working electrode was a graphite microdisc, as auxiliary electrode a bar of the same material was used. The reference electrode was a silver wire. Five voltammograms for the potassium ferrocyanide, ascorbic acid, potassium iodide and succinic acid oxidation were obtained. The linear regression curve was generated for each potential sweep and the voltage scan rate was calculated as the slope of the curve. A strong correlation between potential and time was observed for all the potential sweep. The voltage scan rates are in the range of 2-11 mv/s, being in correspondence with the values reported. The potential sweeps were compared using a combinatory regression curve comparison. Statistically significant differences were obtained between the scan rate used to generate the voltammograms under the same experimental conditions, however, no significant influence over the voltammograms repeatability exists. This demonstrated that the manual potential sweep does not affect the voltammetric determination, being possible to use the manual voltammetry to generate analytic results.