Differential electrolytic potentiometry, a detector in flow injection analysis for oxidation-reduction reactions. Abulkibash, A. M. S.; Koken, M. E.; Khaled, M. M.; Sultan, S. M. Chemistry Department, King Fahd University, Dhahran, Saudi Arabia. Talanta (2000), 52(6), 1139-1142. Publisher: Elsevier Science B.V., CODEN: TLNTA2 ISSN: 0039-9140. Journal written in English. CAN 133:340349 AN 2000:645076 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

For the first time, differential electropotentiometry (DEP) is coupled with the flow injection anal. (FIA) technique for detection of oxidn.-redn. reactions, and is utilized for quant. detn. of vitamin C in pharmaceutical prepns. using 1.0×10-3-M cerium(IV) in 0.50-M sulfuric acid as carrier. Two similar platinum electrodes were employed and polarized by a const. current. Optimization by the univariate method was carried out and the optimum conditions for c.d., flow rate, sample size and concn. of sulfuric acid were 4 mA, 0.93 mL min-1, 140 μl and 0.25 M, resp. Vitamin C was detd. in the concn. range 100-300 ppm with 0.9987 correlation coeff. and 1.9 std. deviation. The method was applied to the detn. of vitamin C in pharmaceutical prepns. and no excipient was found to pose any interference thus rendering the method suitable for detn. of the drug in pharmaceutical prepns. The accuracy of the method was detd. by comparison with the BP std. method.