Abstract

The bachelor thesis deals with finding optimal electrochemical conditions for the determination of the drug tadalafil (TAD). These conditions were then used to determine the TAD content of the commercially available drug Tadalafil Teva 5 mg. The electrochemical techniques used for the determination were differential pulse voltammetry (DPV) and DC voltammetry (DCV). A working carbon composite electrode, an agrentochloride reference electrode, and a platinum auxiliary electrode were used.

Britton-Robinson (BR) buffer at pH 4.0–ethanol (7:3) was determined as the optimal medium. The linear dependence was obtained over the range of concentration from 5×10^{-5} mol/L to 1×10^{-4} mol/L for both techniques used. The limit of quantification (L_Q) and limit of detection (L_D) for DPV were 3.1×10^{-5} mol/L and 4.0×10^{-6} mol/L, respectively. For DCV, $L_Q = 2.0\times10^{-5}$ mol/L and $L_D = 6.0\times10^{-6}$ mol/L.

UV–VIS spectrophotometry using the standard addition method was used as a comparative analytical method to the newly developed voltammetric methods to determine the TAD content of Tadalafil Teva 5 mg.