Abstract

Cyclic voltammetric technique was used for determination of the well known antioxidant catechins in green tea. The electrochemical cell for determination composed of glassy carbon working electrode, saturated calomel reference electrode, platinum wire auxiliary electrode and phosphate buffer pH 7.0 as the supporting electrolyte. Working electrode pretreatment by cycling potential in sodium bicarbonate solution can reduce electrode passivation due to adsorption of the reactant/products of electrode processes. The first oxidation peak potential at 0.20 V provides the relative efficiency of being antioxidant while the peak current or peak area gives the quantitative information. Linear calibration graph was obtained at the catechin concentration range from 5.0×10^{-5} M – 4.0×10^{-4} M. Quantitative determination of catechins from green tea dried leaves infusions at different temperatures were performed and expressed as catechin. The repetitive determination gave relative standard deviation at 5.9% (n = 10) and percent recovery range 95.0-101.7% (n = 5).