Electrochemical Determination of Caffeine in Oolong Tea Based on Polyelectrolyte Functionalized Multi-Walled Carbon Nanotube

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In the present work, a voltammetric sensor for detection of caffeine was prepared by modifying a glassy carbon electrode with Nafion and PDDA-MWCNT. This sensor shows high sensitivity for caffeine determination in the range from 0.3 to 80 μ M, and the detection limit is 0.05 μ M. Moreover, the sensor exhibits good stability, reproducibility and high activity for electrochemical oxidation of caffeine. Thus, it is available for the quantitative analysis of caffeine in Oolong tea.

Keywords: Caffeine; Poly(diallyldimethylammonium chloride); Multi-walled carbon nanotube; Oolong tea; Electrochemical sensor

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