

胶束电动毛细管色谱双通道电化学检测尼群地平

郑妍鹏,莫金垣,赖榕

中山大学化学与化学工程学院,广州(510275)

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摘要 创建了尼群地平的胶束电动毛细管色谱双通道电化学检测的分析新方法。采用两台安培检测器并联构成双通道检测系统,采用单一碳糊工作电极,两台安培检测器的检测电位分别设为+0.7V和-0.8V(vs.SCE)同,同时对尼群地平进行氧化和还原测定,并实时对数据进行采集、处理,以图形方式显示。采用NH₃-NH₄Cl为背景电解质,并加入十二烷基硫酸钠(SDS)和甲醇组成运行电泳介质,应用氧化、还原双通道检测系统对尼群地平及其片剂进行了胶束电动毛细管色谱分离检测;对工作电极的选择、电极电位的选择、SDS的浓度、甲醇浓度、运行缓冲溶液种类以及工作电压和进样时间对分离检测的影响进行了研讨,取得满意结果。

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Dual-Channel Electrochemical Detection of Nitrendipine Tablet in Micellar Electrokinetic Chromatography

Zheng Yanpeng, Mo JinYuan, Lai Rong

School of Chemistry and Chemical Engineering, Zhongshan University, Guangzhou(510275)

Abstract A new method for the simultaneous oxidation and reduction determination of nitrendipine is presented based on the micellar electrokinetic chromatography (MEKC) separation of the analytes coupled to a dual-channel electrochemical detection system. In this system, single working electrode (carbon paste microelectrode) was employed. Two amperometric detectors were placed in parallel and detection potentials were set at +0.7 V and -0.8 V vs. SEC, respectively. Nitrendipine was determined with oxidation and reduction at the same time, and the signals of oxidation and reduction were collected and processed by the software of the system in real time. In this study, efficient, rapid and versatile electrophoretic conditions were obtained which were 8 mmol/L ammonium chloride with pH9.0 adjusted with 25% ammonia, and 6 mmol/L sodium dodecyl sulfate (SDS) in water-methanol (90:10, V:V). The effects of the working electrode, detection potential, concentration of sodium dodecyl sulfate, methanol, electrolyte, applied voltage and injection time on the determining are discussed. The method was applied to nitrendipine tablet and satisfactory results were obtained.

Key words [MICELLE](#) [ELECTROKINETICS](#) [CAPILLARY CHROMATOGRAPHY](#) [CHANNELS](#) [ELECTROCHEMISTRY](#) [DETECTION](#) [CARDIOVASCULAR DISEASES](#) [DRUGS ANALYSIS](#) [ELECTROPHORESIS](#)

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