Preparation and Application Ion-Selective Electrode of Lomefloxacin*

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Lomefloxacin is an antibacterial agent of the 4-quinolone group with a broad spectrum of activity against Gram-positive and Gram-negative bacteria and has been widely used in clinical therapy[1]. Many methods have been used to determine Lomefloxacin, including UV-VIS, HPLC,fluorimetry. The aim of this paper is to report the preparation and the performance characteristics of lomefloxacin PVC coated carbon rod electrode. The electroactive material was made by filtering the tetraphenylboron-lomefloxacin precipitant of lomefloxacin basic solution mixed with tetrapnenylboron .The 0.05mg active material dissolved in 150mg PVC and 0.5mL dicarpryl phthalate as plasticizer in 5mL tetrahydrofuran. Then coated the homogenous solution to the bottom of polished carbon rod, allowed to form a thin film by drying overnight on air[2]. and the electrode be soaked in 1.0×10^{-3}mol/L lomefloxacin solution for 5h before being used for the first time. The influences of various electroactive materials, concentration of activator in membrane phase and plasticizier on the properties of electrode have been studied by orthogonal design. And the optimum experimental conditions are obtained . The electrode shows Nerstian range from 2.0×10^{-3} to 1.0×10^{-5} mol/L, the detection limit is 4.0×10^{-6} mol/L and the electrode slope is 28. 9mv/pC A fast and stable response time of the electrode is approximately 30s for solutions of more than 1.0×10^{-4}mol/L and 1～2min for solutions of less than 1.0×10^{-4}mol/L.And the investigated electrode gave a useful pH range from 4.1 to 7.0.The selectivity coefficients of electrode were determined by separate solution technique and shown good selectivity for the investigated species except pefloxacin. The electrode is applied to the determination of the content of lomefloxacin tablets(shown table 1).the recovery rate is at 97.6～102.4% and the relative standard deviation is 1.93%(n=5),some contented results have been obtained with this method.

Table 1 Determination results of lomefloxacin tablets

Method	1	2	Average
Standard.Curve(mg/tablet)	98.40	99.23	98.92
SSOP(mg/tablet)	99.26	99.64	99.45

References

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2 Pan J., Liu Y.. Fenxi Huaxue,1981,**9**:593

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