化学学报 1994 52 (2): 192-198 ISSN: 0567-7351 CN: 31-1320/06

扩展功能

本文信息

Supporting info

PDF(0KB)

[HTML全文](0KB)

参考文献

服务与反馈

把本文推荐给朋友

加入我的书架

加入引用管理器

复制索引

Email Alert

文章反馈

浏览反馈信息

相关信息

本刊中 包含“卟吩 P”的 相关文章

本文作者相关文章

- 袁若
- 柴雅琴
- 俞汝勤

电聚合卟啉衍生物修饰的碘离子选择性电极

袁若,柴雅琴,俞汝勤

湖南大学化学化工系

收稿日期 修回日期 网络版发布日期 接受日期

摘要 用电化学方法将α,β,γ,δ-四(4-氨基苯基)卟啉单体聚合在铂丝电极上, 可制备化学修饰型I^-选择性电极. 质子化卟啉衍生物的立体交联高聚大环与I^- 的作用具有强的主客体效应,使电极对I^-具有高的选择性, 并呈现与经典Hofmeister 系列及一般金属卟啉中性载体膜电极不同的阴离子选择性次序:I^-》SCN^-》ClO~4^->NO~2^->Br^->NO~3^->Cl^->SO~4^2^-.电极对1×10^-^1～2.6×10^-^6mol ·dm^-^3呈线性响应,检测下限8.2×10^-^7mol·dm^-^3,斜率61±0.2mV/pI^-(27℃).测试了电极膜的交流阻抗行为.电极具有内阻小,响应快,抗毒化能力强, 制备简单等优点

关键词 卟吩 P 铂 离子选择电极 膜电极 碘离子 电化学反应 化学修饰电极 电聚合

分类号 0651

Chemically modified electrode sensitive to iodide based on electropolymerized porphyrin derivative

YUAN RUO,CHAI YAQIN,YU RUQIN

Abstract A chem. modified platinum electrode with coated poly[tetra(4-animophenyl)porphyrin] (PTAPP) was to be used as a new potentiometric iodide selective electrode. The mechanism of the electrode potential response is based on strong host-guest effect between protonized three-dimensional cross linked polycyclic PTAPP film and I- ion. The resulting electrode demonstrates a selectivity sequence different from this conventional Hofmeister series and the behavior of ordinary metal porphyrin complexes: I- ?SCN- ?ClO4- > Br- > NO2- > NO3- > Cl- > SO42-. The response of the electrode is linear in the 10-1 to 2.6 ?10-6 mol dm-3 I- with a detection limit of 8.2 ?10-7 mol dom-3 and a slope 61 ?0.2 mV/pI-(n = 5, 27癈). The PTAPP electrode has the advantages of simplicity, low resistance, fast response, fair stability and reproducibility, and resistance to poison. The a.c. impedance spectra of the polymer membrane have also been studied.

Key words PORPHINE P PLATINUM ION SELECTIVE ELECTRODE MEMBRANE ELECTRODES IODIDE ION ELECTROCHEMICAL REACTION CHEMICAL MODIFIED ELECTRODE

DOI:

通讯作者