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论文

全固态炎痛静电极与底液介电常数对电极性能的影响

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摘要:

全固态结构的杂多酸型炎痛静电极具有良好的电极性能,线性响应范围下限可达1.5×10^{-6} mol/L,可用于生物体液及微体积中微克量级炎痛静的测定。发现;在不同介电常数的乙醇—水混合底液中,杂多酸型(磷钨酸、硅钨酸)电极的响应性能与二环己基萘磺酸、二苦胺、四苯硼、四碘合铋酸或苦味酸型电极不同,并不因底液介电常数之降低而显著改变其斜率。

关键词: 炎痛静电极 炎痛静 电位测定

THE ALL-SOLID-STATE BENZYDAMINE ION-SELECTIVE ELECTRODE AND DIELECTRIC-CONSTANT EFFECT ON THE ELECTRODE LINEARITY SLOPE

SZ Yao; WL Ma; AX Zhu and LH Nie

Abstract:

All-solid-state benzydamine ion-selective electrode with ion-pair complex of benzydamine with hetero-tungstate as electroactive material showed good response performance, its lower limit of linearity response range is 1.5×10^{-6} mol/L with a slope of 58 mV/log C. The electrode can be used for potentiometric determination of benzydamine in blood and urine. Microgram and submicrogram amount of benzydamine can be determined using the proposed single-drop method. For electrodes based on ion-pair complex of benzydamine with hetero-poly acid, the response slope did not decrease significantly with decreasing dielectric constant in the ethanol— water mixed background. However, for electrode based on benzydamine dicyclohexyl-naphthalene sulphonate, dipicrylaminate, tetraphenylborate, tetraiodobismuthate or picrate, the electrode linearity slope decreased continuously with decreasing dielectric constant.

Keywords: Potentiometric determination Benzydamine Benzydamine ion-selective electrode

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