

عنوان مقاله:

Determination of Trace Amount of Cadmium by Modified Graphite Electrode in Aqueous Samples

محل انتشار:

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نویسنده:

M Bagheri - Department of Chemical Engineering, Jami Institute of Technology, Isfahan, Iran

خلاصه مقاله:

In this study the 2,3- Dihydroquinazolin-4(1H)-one was used successfully as an ionophore in construction of modified graphite electrode for Cd (II) cation measurement in aqueous samples, which was formed from a thin layer by Sol-Gel method. The electrode response to Cd (II) cation was reported with a Nernstian slope of -28.9 mV/decade, dynamic range of 1.0×10^{-2} - 1.8×10^{-8} M and pH range of 5.0-6.5. The electrode response time was 45 sec and its detection limit was recorded as 8.6×10^{-9} M. The lifetime of electrode was about 40 days. The proposed electrode showed good selectivity for Cd²⁺ compared to many metal cations. Finally, the desired electrode was satisfactorily used as an indicator electrode in potentiometric titration with EDTA. Also, it was used to determination of Cd²⁺ in real samples and the results were compared with results of atomic absorption spectrophotometer.

کلمات کلیدی:

Cadmium, Ion-selective electrode, Sol-Gel, Ionophore

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