

عنوان مقاله:

Design and construction of a new potentiometric sensor for the determination of Cd²⁺ ions

محل انتشار:

دومین کنگره ملی شیمی و نانو شیمی از پژوهش تا فناوری (سال: 1398)

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خلاصه مقاله:

A new cadmium ion selective electrode based on 2,6-bis (methoxy-6-methyl iminophenol) pyridine (L) for ultra trace Cd²⁺ ion determination by potentiometric method was prepared. The interaction between the ligand with Cd²⁺ ions and other metal ions was investigated through conductivity studies confirming the selectivity for Cd²⁺ ions. The best combination of electrode percentages is 5% ligand, 30% PVC, 63% NPOE and 2% KTpCIPB. In the linear 1.0×10^{-4} to 1.0×10^{-8} molar range, this sensor shows a good Nernstian gradient of 29.6 mV for every ten units of concentration change and It has a detection limit wase 1.0×10^{-9} M. the proposed sensor has a response time of approximately 35 seconds. Potentiometric response of the electrode in the pH range of 4.5 to 9.5 showed independent changes in the concentration of H⁺ ions

کلمات کلیدی:

Potentiometric, Sensor, Cadmium, electrode ion selective

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