

عنوان مقاله:

A new selective macroacyclic Schiff base fluorescent chemosensor containing homopiperazine moiety for Al^{3+} ion

محل انتشار:

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خلاصه مقاله:

Al^{3+} ions existing in natural waters and most plants can enter the human body through foods and water. Since excess or even deficiency of aluminum ions can cause many pathological states, developing fluorescent chemosensors for detecting trace amounts of Al^{3+} has attracted increasing attention. A new chemosensor for Al^{3+} based on Schiff base with high sensitivity and selectivity was synthesized by condensation of a polyamine containing homopiperazine moiety with 2-hydroxybenzaldehyde, and characterized by IR, 1H NMR, ^{13}C NMR and mass spectra (Scheme 1). After the addition of different metal ions such as Pb^{2+} , Cr^{3+} , Mn^{2+} , Al^{3+} , Ni^{2+} , Co^{2+} , Zn^{2+} , Hg^{2+} , Fe^{3+} , Zn^{2+} , Cd^{2+} only Al^{3+} could increase the fluorescence intensity of the H2L as a chemosensor (Fig. 1 a). Also the fluorescence intensity of the chemosensor in ethanol solution was enhanced after the addition of Al^{3+} over other metal ions (Fig. 1 b) [1,2]

کلمات کلیدی:

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