عنوان مقاله:

The immobilized azo-azomethine on solid supports: highly selective sensors for naked eye detection of CN– in water

محل انتشار:

بیست و یکمین سمینار شیمی معدنی انجمن شیمی ایران (سال: 1398)

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خلاصه مقاله:

A molecular azo-azomethine receptor, HL, was synthesized via condensationreaction of 1-(3-formyl-4-hydroxyphenylazo)-4-nitrobenzeneand 3-aminopropyl triethoxysilane in EtOH. The HL was characterized using standard spectroscopic techniques.The sensing ability of HLwas investigated towards the inorganic anions in DMSO and semi-aqueous media. As shownin Fig. 1, upon the addition 10 equiv. of the anions (CN^-, $H2PO4^-$,AcO^-, $NO3^-$,$HSO4^-$,F^-, Cl^-, Br^-, I^-, and free HL) to the DMSO solution of HL an instant and noticeable color changes was observed from pale orange to dark blue and gray-blue only in the presence of CN^- and AcO^-, respectively. To further study, UV-Vis experiments were also performed upon the addition 10 equiv. of CN^- and AcO^- to DMSO solution of HL.Then, the new solid sensors based HL immobilized on amorphous SiO2, S-B, and NaY zeolite, S-ZY, was prepared and applied for detection of the mentioned anions, in 100% aqueous media.The fabricated solid sensors were characterized using powder XRD diffraction, TGA-DTA, BET and FT-IR spectroscopy. Surprisingly, S-B and S-ZY show excellent sensitivity and selectivity against CN^-over the other anions (CN^-, $H2PO4^-$,AcO^-, $NO3^-$,$HSO4^-$, F^-, [Cl^-, Br^-, I^- and free S-ZY) in water Fig. 2. [1,2

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا: