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Design and synthesis a highly selective chromogenic prob based on hydrazide schiff base reagent for naked eye detection of CN^- and AcO^- ions and its application in real samples

Mahsa Hasani, Hamid Khanmohammadi *

Department of Chemistry, Faculty of Science, Arak University, Arak 38156-8-8349, Iran

** E-mail: h-khanmohammadi@araku.ac.ir*

A new azomethine chromogenic probe, **HL**, based on hydrazide shiff base has been synthesized and used as a colorimetric sensor for naked-aye detection of CN^- and AcO^- ions in organic and semi-aqeouse media.The probe **HL** has been characterized using standard spectroscopic methods (IR, ^{1}H NMR, UV-Vis) as well as elemental analysis. The anion recognition ability of **HL** was evaluated using UV–Vis spectroscopy and ^{1}HNMR technique. The results exhibited that the **HL** acts as a highly selective chemosensor for the detection of CN^- and AcO^- in pure DMSO and DMSO: H_2O (90:10 v/v) media over other anions such as F^-, Cl^-, Br^-, I^-, SO_4^{2-}, SO_3^{2-}, PO_4^{3-}, $H_2PO_4^-$, HSO_4^-, NO_2^- and NO_3^-.Fig .1. as well as, In order to examine the potential applicability of the prepared chemosensor, **HL** was used for detection Sodium diclofenac (**SD**) in aqeous media. As shown in Fig. 2, a diagnosable color change was observed from colorless to pale yellow after addition of **SD**. The ability of **HL** for rapid colorimetric sensing of SD was studied using UV–Vis spectroscopy, and ^{1}H NMR titration methods.



Fig 1



Fig 2

Keywords: Schiff base, Chemosensore, Anion sensing, Organo-aqueous media, Naked eye

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