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Title: NEW SCHIFF BASE LINKED ARYLAZOPYRAZOLES AS REAGENTS FOR PHOTOMETRIC DETECTION OF FLUORIDE IONS

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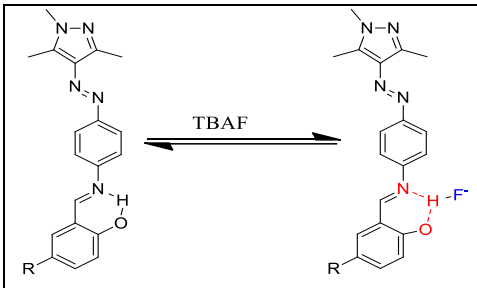
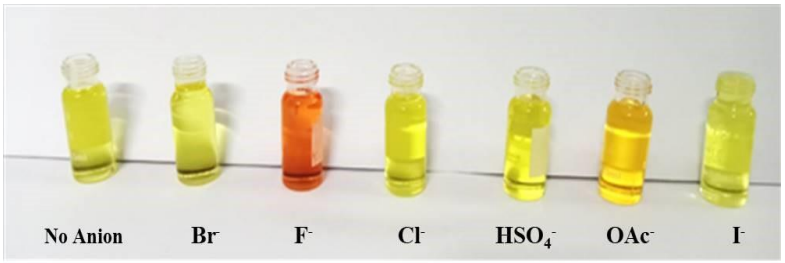
Abstract:
Novel reagents (L1–2) containing arylazopyrazole moiety linked to Schiff base were synthesized and evaluated for anion recognition properties. These were found to be selective for F^- Significant red shift (>100 nm) of the intra-ligand charge transfer (ICT) bands have been observed after F^- addition to probes L1 and L2, resulting in distinct color change visible by the naked eye. The F^- sensing mechanisms have been explored using various spectroscopic techniques, viz., ^1H NMR, IR, UV-visible, and fluorescence spectroscopy. The limit of detection (LOD) of both the reagents toward F^- was found to be less than 10 µM.

Figure/Scheme (if any):



Spectroscopic data-based binding mechanism of F^- with reagents L1-2



Colorimetric detection of F^- on adding 6 equivalents of various anions (1.2×10^{-4} M) to reagent L1 (2×10^{-5} M) (from left to the right: no anion, Br^-, F^-, Cl^-, HSO_4^-, AcO^-, I^-).

References and Notes:

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