

Accepted Manuscript

A new colorimetric and fluorescent chemosensor based on thiacalix[4]arene for fluoride ions

Savan M. Darjee, Divya R. Mishra, Keyur D. Bhatt, Disha J. Vyas, Krunal M. Modi, Vinod K. Jain

PII: S0040-4039(14)01867-X
DOI: <http://dx.doi.org/10.1016/j.tetlet.2014.10.149>
Reference: TETL 45378

To appear in: *Tetrahedron Letters*

Received Date: 21 July 2014
Revised Date: 28 October 2014
Accepted Date: 30 October 2014

Please cite this article as: Darjee, S.M., Mishra, D.R., Bhatt, K.D., Vyas, D.J., Modi, K.M., Jain, V.K., A new colorimetric and fluorescent chemosensor based on thiacalix[4]arene for fluoride ions, *Tetrahedron Letters* (2014), doi: <http://dx.doi.org/10.1016/j.tetlet.2014.10.149>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



**A new colorimetric and fluorescent chemosensor based on thiacalix[4]arene
for fluoride ions**

Savan M. Darjee, Divya R. Mishra, Keyur D. Bhatt, Disha J. Vyas,

Krunal M. Modi, Vinod K. Jain*

Department of Chemistry, School of Sciences, Gujarat University, Ahmedabad 380009, India

Abstract

A new thiacalix[4]arene based fluorescent chemosensor thiacalix[4]arene-N-(quinolin-8-yl)acetamide (**TCAN8QA**) has been synthesized. **TCAN8QA** has been found to exhibit highly selective behavior for F⁻ ions among all other anions e.g., Cl⁻, Br⁻, I⁻, PO₄⁻³, OH⁻, H₂PO₄⁻ and CH₃COO⁻ in the absorption spectra as well as in the emission spectra. Red shift and quenching in emission spectra constituting the signature for fluoride detection is due to photoinduced charge transfer (PCT) which can be attributed to deprotonation of acidic NH proton in the presence of fluoride ions.

Keywords: Thiacalix[4]arene, Chemosensor, Fluoride sensor, Quenching

Corresponding author: Prof. V. K. Jain, Department of Chemistry, School of Science, Gujarat University, Ahmedabad 380009.

Tel.: +91 9327013263.

E-mail address: drvkjain@hotmail.com

¹ Abbreviations: thiacalix[4]arene-N-(quinolin-8-yl)acetamide (**TCAN8QA**), photoinduced charge transfer (**PCT**)

Download English Version:

<https://daneshyari.com/en/article/5263617>

Download Persian Version:

<https://daneshyari.com/article/5263617>

[Daneshyari.com](https://daneshyari.com)