

Accepted Manuscript

Research paper

A carbazole-based turn-on fluorescent probe for the detection of hydrazine in aqueous solution

Wei-Dong Wang, Yang Hu, Qiao Li, Sheng-Li Hu

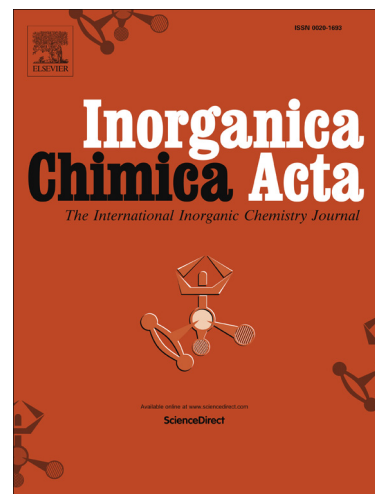
PII: S0020-1693(18)30148-8
DOI: <https://doi.org/10.1016/j.ica.2018.03.033>
Reference: ICA 18178

To appear in: *Inorganica Chimica Acta*

Received Date: 27 January 2018
Revised Date: 20 March 2018
Accepted Date: 21 March 2018

Please cite this article as: W-D. Wang, Y. Hu, Q. Li, S-L. Hu, A carbazole-based turn-on fluorescent probe for the detection of hydrazine in aqueous solution, *Inorganica Chimica Acta* (2018), doi: <https://doi.org/10.1016/j.ica.2018.03.033>

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 carbazole-based turn-on fluorescent probe for the detection of hydrazine in aqueous solution

Wei-Dong Wang, Yang Hu, Qiao Li, Sheng-Li Hu*

Hubei Key Laboratory of Pollutant Analysis & Reuse Technology, Hubei Collaborative Innovation Center for Rare Metal Chemistry, College of Chemistry and Chemical Engineering, Hubei Normal University, Huangshi 435002, P. R. China

Abstract

A carbazole-based fluorescent probe, 2-(9-ethyl-9H-carbazol-3-yl) isoindoline-1,3-dione, with a low detection limit (2.673×10^{-6} M) for the detection of hydrazine is designed and synthesized based on Gabriel reaction. The probe responds selectively to hydrazine over other amino compounds with marked fluorescence enhancement. Moreover, test paper experiments indicated its great potential in the environment monitoring of hydrazine in aqueous solution.

Key words

Carbazole, Fluorometric, Hydrazine, Gabriel reaction.

1. Introduction

As a type of highly reactive base and reduction agent [1], hydrazine has also played a vital role in pharmaceuticals, pesticides, dyes and emulsifiers [2-4]. However, hydrazine is highly poisonous and the exposure of hydrazine in elevated levels could

*Corresponding author: E-mail: hushengli168@126.com Tel.: +86 0714 6515602 Fax: +86 0714 6515602

Download English Version:

<https://daneshyari.com/en/article/7750544>

Download Persian Version:

<https://daneshyari.com/article/7750544>

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