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(57) Abstract :

Title: A Chemosensor Probe for Colorimetric Optical Detection and Differentiation of Arsenite and Arsenate ions and Ratio metric Detection of Carbonate ions  
ABSTRACT The presence of toxic anions in natural resources is very important to be detected to keep a check on its permissible limits. Continuous exposure of higher levels of anions to humans causes various health issues. Arsenic species especially inorganic arsenite (As<sub>3+</sub>) and arsenate (As<sub>5+</sub>) are toxic in nature. The hurdles associated with existing system of detecting anions is overcome by the present invention by the development of a novel single chemosensor receptor R for use in both colorimetric detection and differentiation of arsenite (As<sub>3+</sub>) and arsenate (As<sub>5+</sub>) and ratiometric detection of carbonate ions. The main advantages of adopting colorimetric detection is possibility of naked eye detection of the samples and the receptor R consist of single step synthesis. The chemosensor receptor R exhibits high selectivity and sensitivity with no environmental and health risks and is also cost effective.

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