Highly Selective Dual Channel Chemosensor Based on benzo[d]thiazole for Detection of Zn^{2+} ions

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doi: 10.20964/2016.10.66

Received: 14 June 2016 / Accepted: 11 August 2016 / Published: 6 September 2016

A cost effective reversible dual channel chemosensor (BT-1) has been synthesized for detection of Zn^{2+} ion based on a benzo[d]thiazole Schiff base. It exhibits high selective and sensitive optical changes in fluorescence intensity for zinc metal ions. Optical chemosensor (BT-1) exhibited fluorescence off-on effect with Zn^{2+} without any significant interference of other metal ions. The LOD of the optical chemosensors was calculated 0.11 μM for Zn^{2+} ion. Probe BT-1 is applicable to electroanalytical recognition of Zn^{2+} metal ion with polyvinyl chloride membrane sensing response. Reported chemosensor was provided high sensing response in real environmental sample with quick response time.

Keywords: Chemosensor, reversibility, membrane sensor, real sample, EDTA, Zn^{2+}.

FULL TEXT

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