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

Lokesh Kumar Kumawat, Vinod Kumar Gupta^{*},

Department of Applied Chemistry, University of Johannesburg, Johannesburg, South Africa

^{*}E-mail: vinodg@uj.ac.za

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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+} .

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