

## A NEW PERIMIDINE BASED CHEMOSENSOR FOR DETECTION OF $\text{Cu}^{2+}$ IONS IN AQUEOUS MEDIA AND EVALUATION OF ITS ANTIOXIDANT PROPERTY

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*In the present study, we have reported a unique perimidine derivative as a colorimetric sensor for the detection of aqueous  $\text{Cu}^{2+}$  ion, the third most abundant transition metal ion in human bodies. The chemosensor 2PP can be used as a highly selective and sensitive, naked-eye sensor for the detection of aqueous  $\text{Cu}^{2+}$  ion as it enables analysis of aqueous  $\text{Cu}^{2+}$  ion with a detection limit of  $8.9 \times 10^{-8}$  M, which is even below than that of the WHO acceptable limit ( $31.5 \mu\text{M}$ ). The stoichiometry of the  $\text{Cu}^{2+}$ : 2PP complex as calculated from Job's plot measurements is 1:1. The binding constant ( $K_b$ ) of 2PP for  $\text{Cu}^{2+}$  ion was determined by linear fitting of absorption titration curve. The high value of binding constant ( $0.69 \times 10^4 \text{ M}^{-1}$ ) indicates the strong interaction between 2PP and  $\text{Cu}^{2+}$  ion. Additionally, the antioxidant activity of 2PP has also been evaluated in the study.*

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