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Authors: Rukmani Chandra, Anupam Ghorai, Goutam K. Patra



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# A simple benzildihydrazone derived colorimetric and fluorescent 'on-off-on' sensor for sequential detection of copper(II) and cyanide ions in aqueous solution

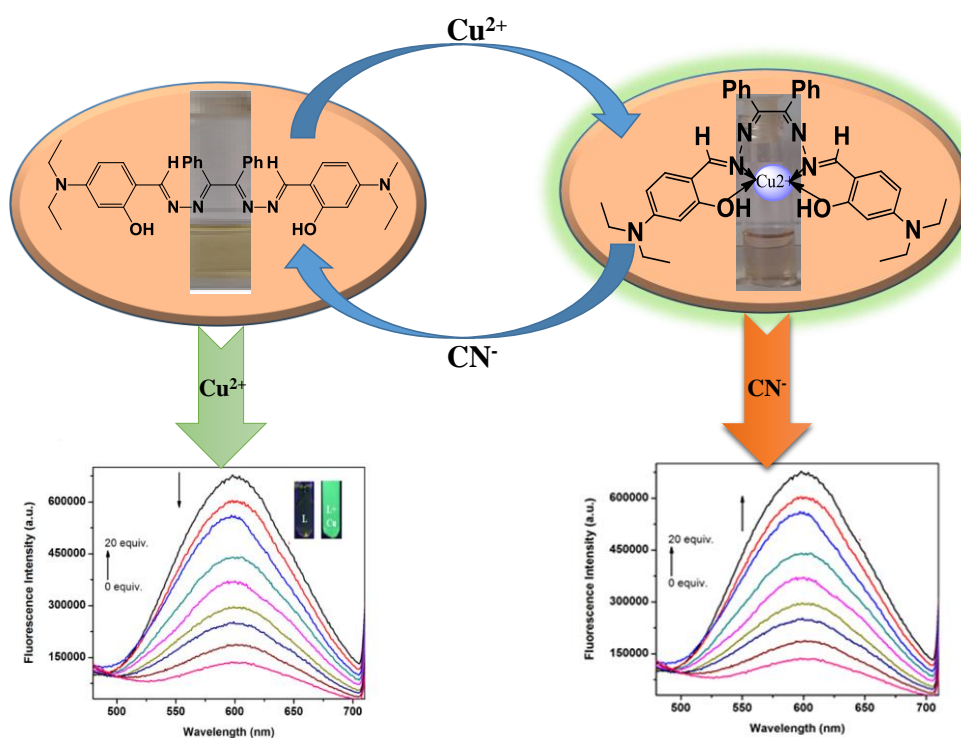
Rukmani Chandra, Anupam Ghorai and Goutam K. Patra\*

Department of Chemistry, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G)

\*Corresponding Author: Tel.: 91 7587312992, E-mail: patra29in@yahoo.co.in

## Graphical abstract

A simple, environment friendly fluorescent *turn-off* and colorimetric sensor for the rapid detection of  $\text{Cu}^{2+}$  ions in aqueous solution by using organic Schiff base ligand *benzildihydrazone-N,N'-bis(2-hydroxy-4-diethylamino-1-formylbenzene)* (**L**) has been developed. **L** exhibited binding-induced color change from yellow to light red. The obtained **L**- $\text{Cu}^{2+}$  complex could be used as a new cascade sensor for detecting cyanide anion ( $\text{CN}^-$ ). The corresponding detection limits were found to be  $7.3 \times 10^{-10}$  M for  $\text{Cu}^{2+}$  and  $1.5 \times 10^{-7}$  M for  $\text{CN}^-$ .



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